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The Manufacturing Confectioner

...ONEER SPECIALIZED PUBLICATION FOR CONFECTIONERY MANUFACTURERS

Sugar — Its Solubility, And Accompanying Physical Effects: An Authoritative Examination

•

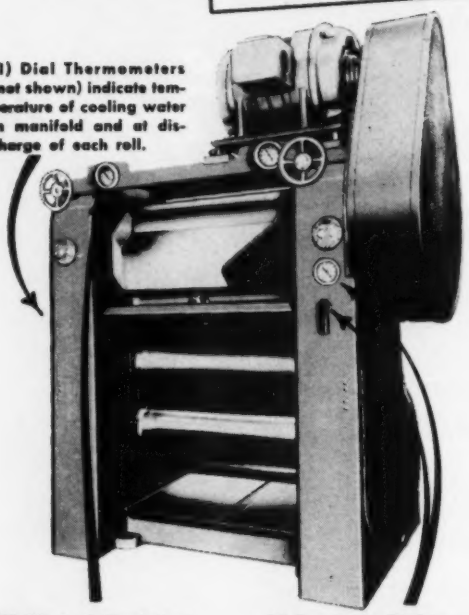
How Glassine Is Tailored Into Candy Wraps: Uses of This Popular Bar Wrapping Paper

•

How Two Western Firms Merged To Form An Expanded Seattle Candy Co. Of Doubled Capacity

FEBRUARY
1951

More and Better Output per Man-Hour with LEHMANN SIGHT-O-MATIC CONTROL



(1) Dial Thermometers (not shown) indicate temperature of cooling water in manifold and at discharge of each roll.

(2) Effect of Handwheel adjustment is seen instantly on the gauge.

(3) Pneumatic Discharge Control provides means for setting knife pressure for most efficient take-off.

THE new Lehmann 651-CV Five Roll Chocolate Refiner with Sight-O-Matic Control substantially increases output and fineness of chocolate. By reducing the human element in three important adjustments—roll pressure, take-off knife pressure, and roll temperature—optimum settings are assured without waste of time.

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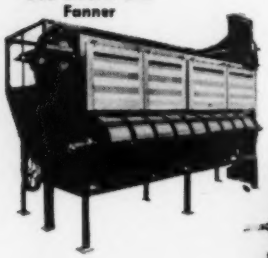
Definitely, the Lehmann 651-CV Chocolate Refiner is a long step forward in the mechanization of chocolate refining.

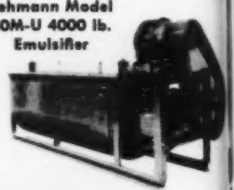
OTHER LEHMANN CHOCOLATE PROCESSING EQUIPMENT

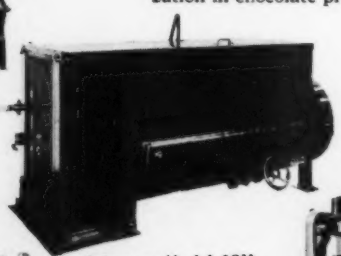
Illustrated here are some of the other units of Lehmann Chocolate Processing equipment. Each is characterized by the high quality of product process it provides. The excellent engineering incorporated in the designs of these machines is the result of many years of specialization in chocolate production machinery.

Lehmann Model 88 DSL Cracker and Fanner

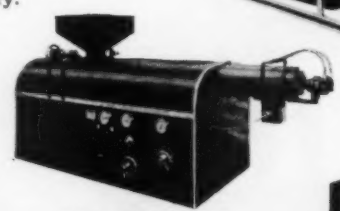


Lehmann Model 40M-U 4000 lb. Emulsifier

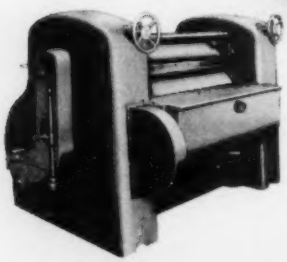




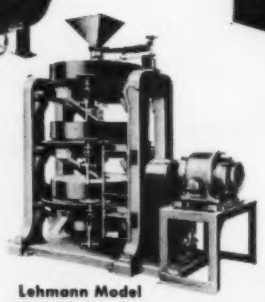
Lehmann Model 10M 1000 lb. Paste Mixer



Lehmann Model 35Q Thermal Equalizer

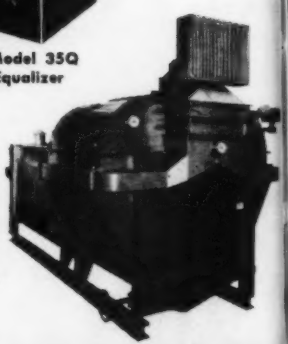


Lehmann Model 913 ACL Three Roll Liquor Mill



Lehmann Model 48D-N Triple Mill

Lehmann Model 450 Disc Conche



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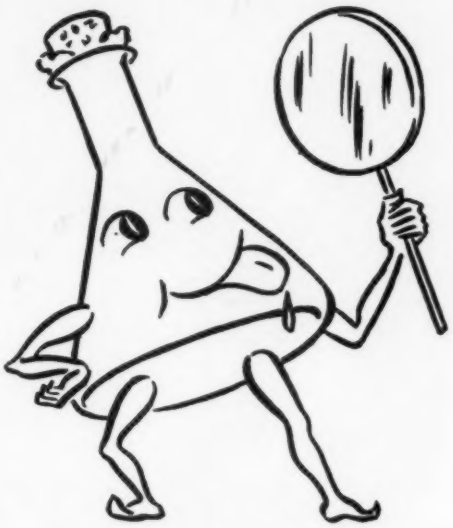

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The Manufacturing Confectioner

READ WHEREVER CANDY IS MADE

FEBRUARY, 1951
Vol. XXXI No. 2

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COVER: Popular items that use glassine for wraps. Courtesy, Riegel Paper Company.

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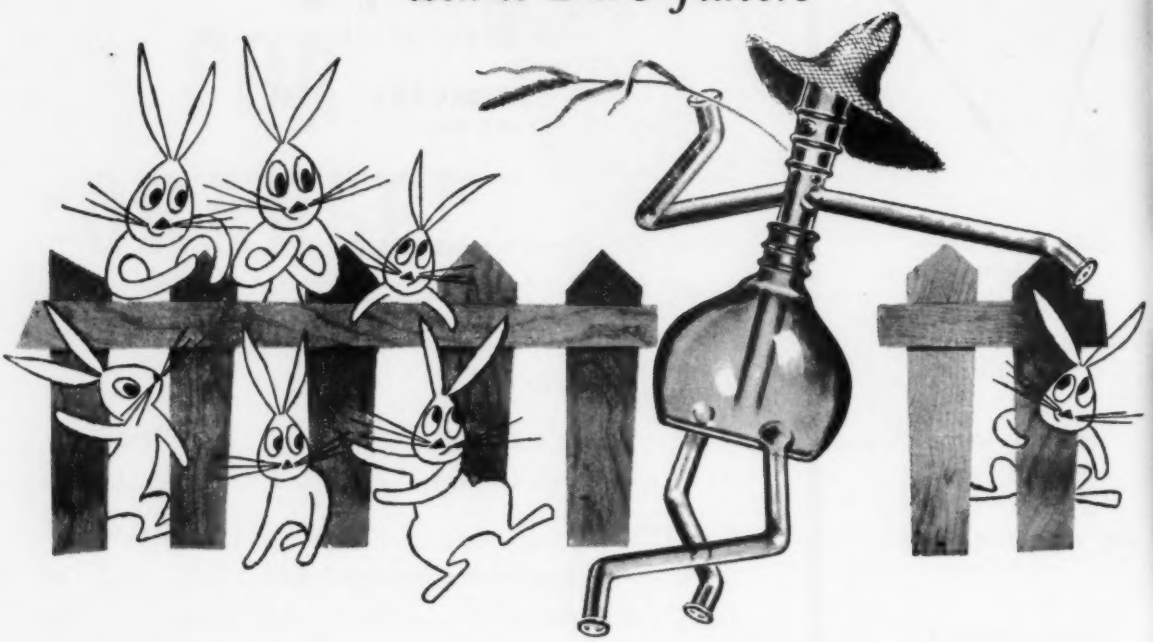

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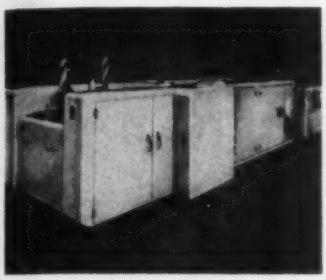

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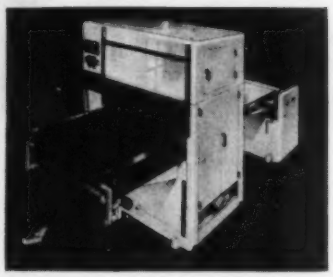

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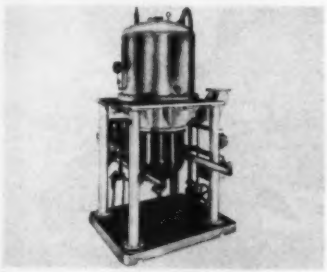

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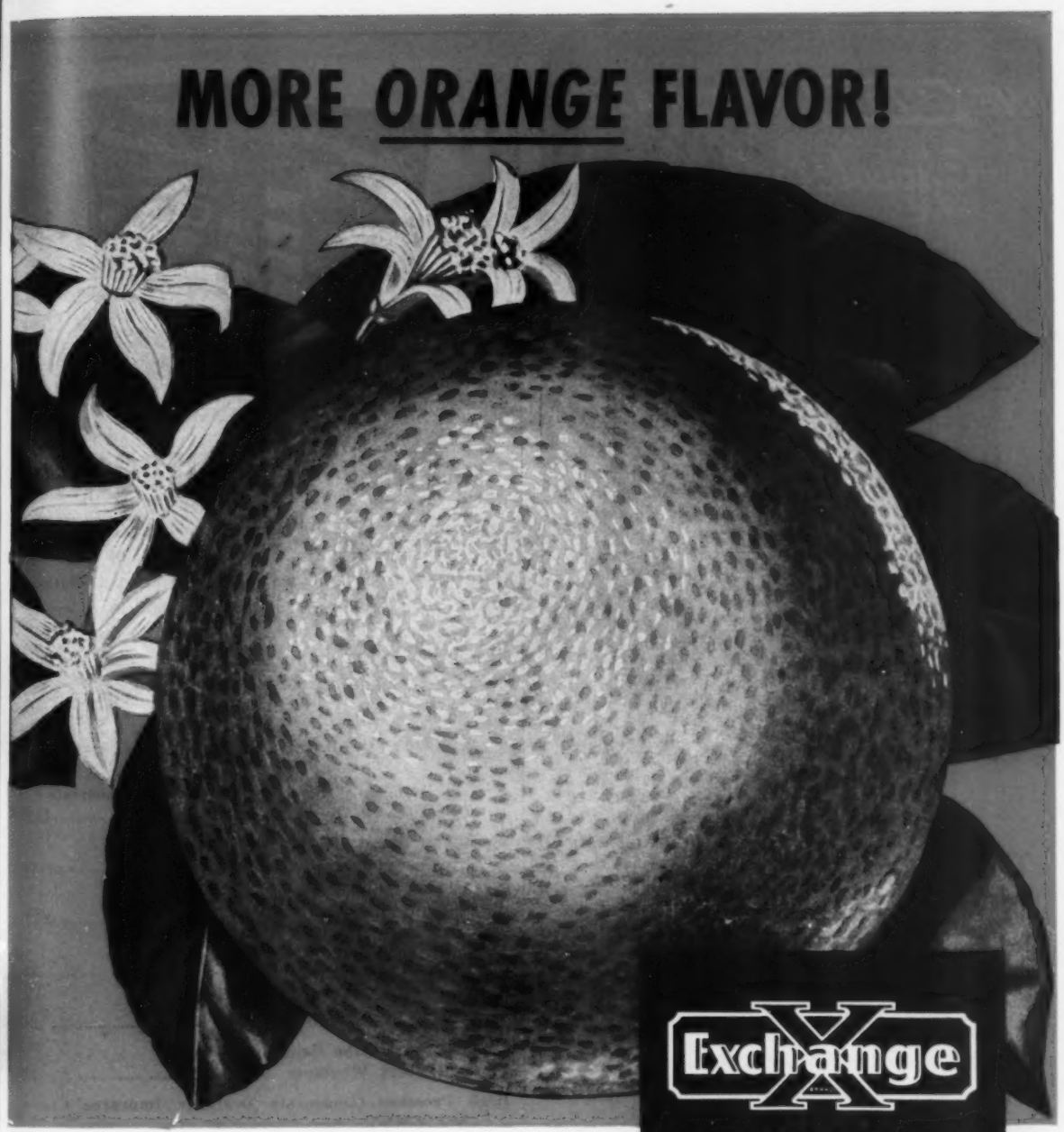

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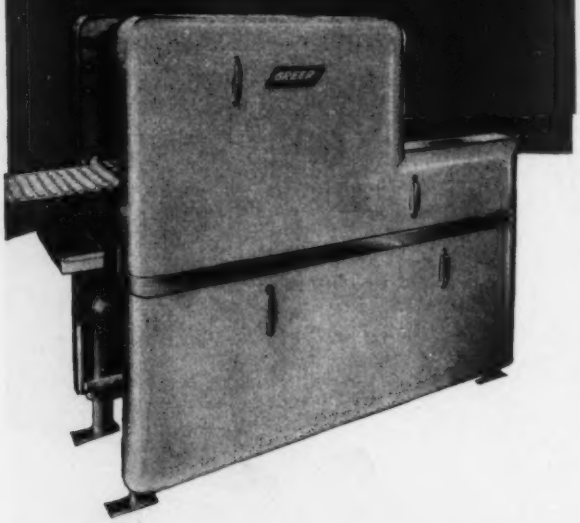

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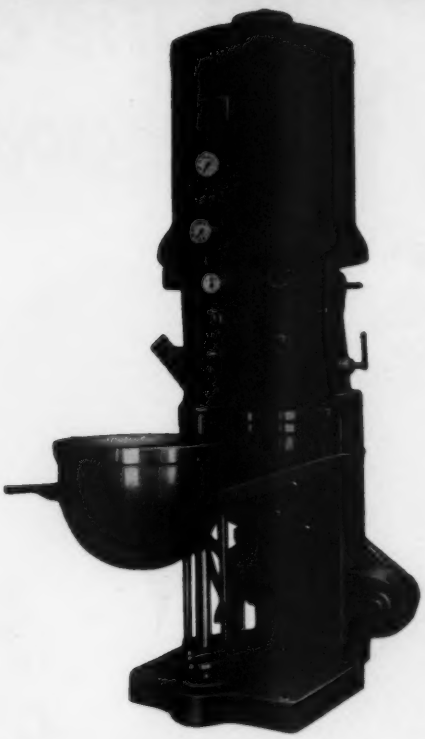

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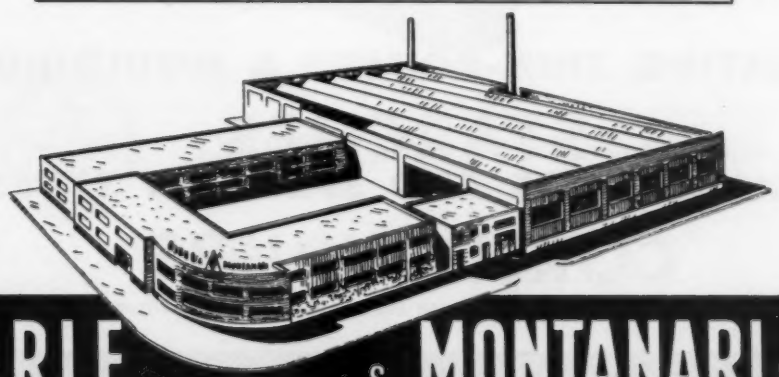

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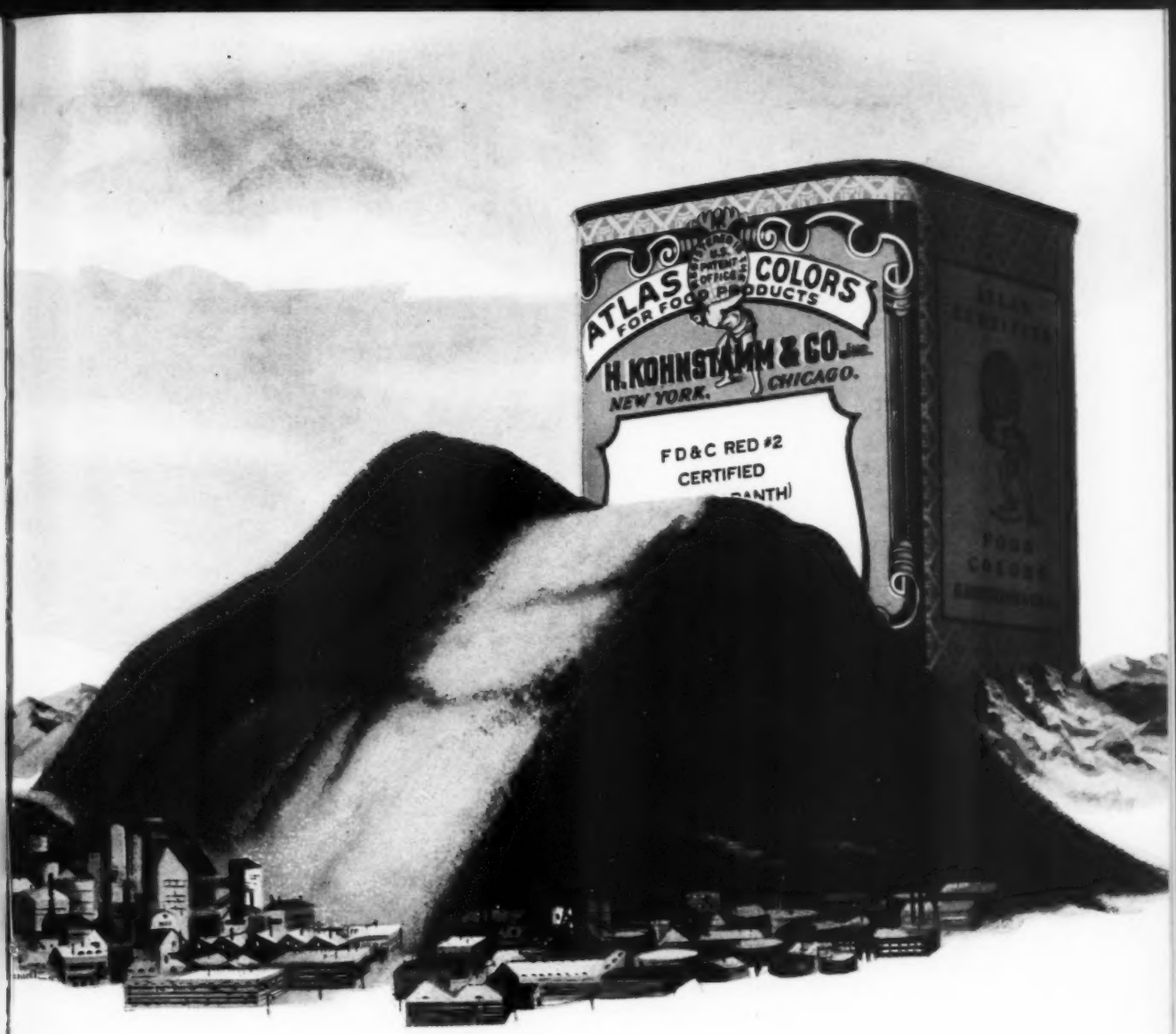

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FEBRUARY, 1951, VOL. XXXI, NO. 2

The Manufacturing Confectioner

SUGAR--It's Solubility and accompanying physical effects

by EDWARD W. MEEKER
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American Sugar Refining Company

THE SIMPLE FACT that sugar will dissolve readily in water without change has been accepted universally by manufacturers to a degree that almost amounts to "second nature." The very process of dissolving sugar to form sugar solutions, simple as it appears, actually involves several physical effects, a few of which are not commonly known, such as the heat of solution, contraction in volume and change in vapor and osmotic pressures. While some of these physical effects taking place may not be of immediate practical significance or use they are of importance in establishing accurate, reliable scientific data for sugar solutions. Moreover, it may be possible that in the future these little known effects may become of practical importance as the application of sound technical knowledge and skill is increased through modern design and control.

The data and information presented, while available in the many excellent technical books and papers, is usually scattered and often is not easily secured without a time consuming and serious comparative search. With the latter thought in mind, it is hoped that the subject to be presented may prove to be of interest to manufacturers concerned with the solution of sugar in water. It should be noted that while the principles and physical effects presented have been discussed with general reference to confectionery manufacture they are applicable to any industry requiring only the proper interpretation and statement for that industry's problems.

Solubility may be defined simply as that quantity of a substance (in this case, sugar) that mixes with a solvent (water) to produce a homogenous liquid called a solution. The degree of solubility, however, is the concentration of the substance in the solution at a given temperature. Solubility may be expressed in various ways depending upon the purpose for which it is to be used. The two most common are (a) the percent solubility or the weight of the dissolved substance per unit weight of solution and (b) the weight of dissolved substance per unit volume of solution. For example, in (a) we have such expressions as grams per 100 grams of solution and pounds per 100 pounds of solution while in (b) we have grams per cubic centimeter and pounds per gallon.

A solution that contains as much of the substance as it can retain, in the presence of that substance at a given temperature, is known as a saturated solution. Scientifically, a saturated solution is a state of equilibrium between the rate of solution of the solid phase and the rate of return of the dissolved solid to the solid condition. If, however, a solution contains *more* than the saturation amount of dissolved substance at a given temperature it is called a supersaturated solution. Supersaturated solutions are said to be in a state of non-equilibrium or "metastable" state since this condition is easily upset with subsequent crystallization of the dissolved solid substance. Simply jarring or stirring the solution or the addition of a minute amount of solid material is sufficient in most cases to disturb the condition and incite crystallization.

Solubility of Sugar

Let us now consider some of the more important factors that determine solubility. The solubility of a substance such as sugar for most practicable purposes depends mainly upon the temperature, the nature of the solvent and upon the presence of other dissolved substances. In the case of the temperature effect, the solubility of sugar increases with a rise in temperature, which is the usual case for most solids, although there are some exceptions to this rule. It is customary with solid substances to determine the solubility at intervals of temperature and tabulate the results or plot the values obtained on coordinate paper drawing a line through the plotted points. While tabulated data are probably the most accurate and easily used, the plotted data, known as a solubility curve, presents the solubility of the substance at various temperatures more expeditiously. If the solubilities of several substances are plotted on the same sheet the curves show at a glance the relative solubility of the various substances. A curve that has a steep slope indicates that a change in temperature has a marked effect while a flattened curve shows the opposite. If the curve shows a sudden break it usually indicates that a change in the composition of the substance has taken place. Figure I clearly illustrates these physical effects. The curve for sodium chloride (salt) is included simply to illustrate a substance whose solubility is affected very little by temperature. Note the "break" on the dextrose curve. This is the transition point where the hydrated phase is transformed into the anhydrous although it is possible for the anhydrous form to exist at temperatures below 50°C (122°F) if the crystals are not contaminated with the hydrate.

Insofar as the effect of the nature of the solvent is concerned, it can be assumed that it plays no important

part in confectionery manufacturing since water is practically the only true solvent used. However, for example, if alcohol were to be used as a constituent it would diminish the solubility of the sucrose depending upon the concentration. For instance, a 20 percent by weight alcohol solution at a temperature of 17.5°C (36.5°F) will dissolve only about 58 percent sugar while water at the same temperature will dissolve about 66.5 percent.[12]

The effect of the presence of other substances either added or originally present in the solution, in general, tends to reduce the solubility of sugar. For example, the addition of invert sugar to a sugar solution decreases the amount of sucrose dissolved.

However, it should be noted that while the solubility of the sucrose is diminished by the addition of invert sugar the sucrose-invert sugar system shows an increase in the density (solids concentration) of the solution above the solubility limits of the individual sugars. This effect is illustrated by the respective curves shown in Figure I.

It is important to understand the nature of the solubility curve for invert sugar since invert sugar is commonly spoken of as being "more soluble" than sucrose. This is true only above a concentration of about 68 percent solids. If we examine the curves shown on Figure I we note that below 68 percent solids the solubility of invert sugar is somewhat less than that of sucrose. This is valid, in general, only for solutions of the pure sugars and, in the case of invert sugar, where the solution is saturated with respect to dextrose and the system is in equilibrium. However, in commercial practice such equilibrium is attained only extremely slowly, if at all, even if there is an abundance of the solid phase (dextrose) present. Furthermore, when the solid phase is not present the solution can remain supersaturated for long periods of time and crystallization may not occur. In conjunction with this the effect of the viscosity of the solution retarding crystallization must also be recognized.[9,12] Thus, it is possible to transport and store invert sugar solutions without crystallization for considerable periods of time at higher densities than the solubility curves indicate. Junk, Nelson and Sherrill have pointed this out wherein they presented curves showing the "safe densities" for the storage of inverted syrups in the possible presence of seed crystals.[7] For example, a commercial 95 percent inverted syrup, commonly called a "total" invert syrup, may be stored at as high as 74 percent solids at 20°C (68°F) and at 69 percent solids at 10°C (50°F) whereas the solubility limits at these temperatures under equilibrium conditions are about 62.6 and 56.6 percent respectively.

When sugar is dissolved in water the following physical changes take place which are of particular interest to the confectioner—the boiling point of the solution is raised and the viscosity of the solution increases.

Plotting Boiling Points

The rise in boiling point, caused by a lowering of the vapor pressure, is not constant but is a function of the concentration. When the boiling points are plotted against the concentration of the solution a curve is formed which rises slowly up to about 50 percent concentration—then very rapidly. Figure 2 shows this clearly. The boiling points plotted on this chart have been calculated using the following formula.[1]

$$\text{Log}_{10}\Delta t = (2.6157 \times 10^{-6}X^3) - (4.0185 \times 10^{-4}X^2) + (4.2567 \times 10^{-2}X) - 1.1979$$

where X equals the percent sucrose in the solution.

Since the magnitude of the change in viscosity is very small up to 50 percent concentration it is not feasible to show the change in viscosity clearly by a single curve. Therefore, the following tabulated data is given to show

The increase in viscosity likewise is dependent upon the concentration and also forms a curve when plotted.

FIGURE 1

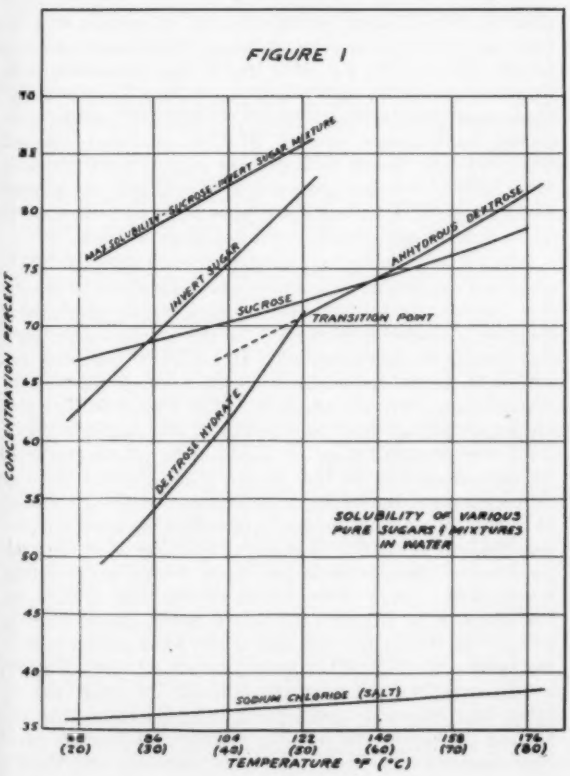
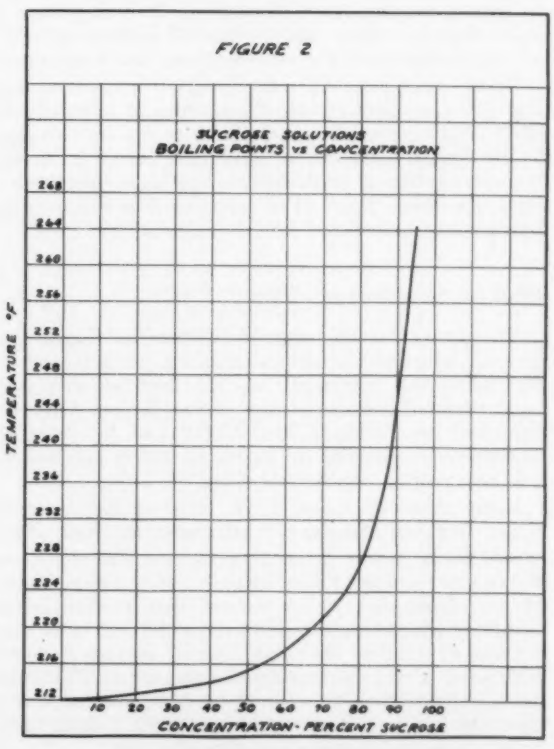


FIGURE 2



this effect and its change with temperature.[1]

TABLE I

Viscosity in centipoises of sucrose solution

Percent sucrose	*Temperature °C*		
	20	50	80
20	1.96	1.0	0.6
30	3.2	1.3	0.9
40	6.2	2.5	1.3
50	15.5	5.1	2.4
60	58.9	14.0	5.2
70	485	64.6	16.9
75	2,344	194	38.4

Note the very marked increase in the viscosity with decreasing temperature at the higher concentrations, particularly above 60 percent sucrose. This effect, of course, is well known to the confectioner when, for example, a cooked syrup of high concentration is cooled to beating temperature for fondant preparation the solution becomes extremely viscous.

Two other very interesting and possibly little known phenomena occur when sugar is dissolved in water—the solution is cooled and a simultaneous increase and decrease in volume takes place. The technical term used to describe a change in the heat balance when a substance is dissolved in a solvent is the heat of solution. The heat of solution is known scientifically as the thermal change accompanying the solution of a substance in so large a volume of solution that no appreciable change in concentration is produced by the solution of the substance. This heat of solution may be exothermic causing a release of heat or endothermic resulting in absorption of heat. When sugar is dissolved in water the effect is endothermic and the solution is cooled and sugar is said to have a negative heat of solution. It is important to know that the values for the heat of solution of sugar are dependent upon the concentration and temperature.

Under most practical manufacturing conditions dealing with comparatively small quantities of materials this effect is of such small magnitude as to remain unnoticed by the casual observer or uninitiate. However, it may become significant particularly when large quantities of sugar are either dissolved or crystallized and an accurate heat balance is required for cost calculations.

Heat of Solutions of Sugar

The values for the heat of solution for sugar have been investigated by various scientific workers and unfortunately the agreement has not been all that is to be desired. A review of the entire subject has been published by Phillip Lyle in 1939 and he developed mathematical equation by means of which approximate heat of solutions can be calculated.[10]

Using these equations, E. J. Culp of the American Sugar Refining Company[3] calculated the heat effects caused by a change in state of sucrose wherein it was shown that the heat of solution is in reality a combination of two effects (a) a hypothetical heat of liquefaction occurring when sucrose is dissolved at 100° Brix and (b) the heat of dilution when this "liquid" sucrose is diluted with water. From these values the number of BTU's that are absorbed when one pound of crystalline sucrose is dissolved in water were determined. Table 2 from Culp's paper shows the magnitude of this effect.

TABLE 2

Number of BTU's absorbed when one pound of sucrose is dissolved in water

Brix of Final Solution at 20°C	*Temperature Degrees F.*		
	68	100	150
	BTU	*BTU*	*BTU*
20	6.1	10.9	19.5
40	7.2	12.0	20.6
60	8.6	13.4	21.9
70	9.76	14.6	23.1

The lowering in temperature of the solution caused when crystalline sugar is dissolved in water can be calculated from the foregoing data. For example, in the preparation of a 40 Brix solution at 20°C (68°F) the solution of the sucrose results in a temperature drop of about 3.7°F, while for a 70 Brix solution the temperature drop is about 11°F. These may be significant figures where accurate heat balances are required.

It is important that the confectioner know the heat absorbed in dissolving sugar in water is evolved when the sugar is crystallized from the solution.[8] This physical effect is in accordance with the well known laws of thermodynamics. Thus, during the beating or creaming operation in the preparation of fondant, heat is given off and the temperature of the mass rises. Cooling jackets are usually supplied to beating equipment not only to cool the hot supersaturated syrup to beating temperature rapidly but also to offset this rise in temperature thus aiding in the control of the crystallization of the sugar.[9]

Temperature When Sugar Crystallizes

To illustrate the magnitude of the rise in temperature resulting when sugar crystallizes, let us assume that we have prepared without inverting any significant amount of the sucrose, 100 lbs. of a highly supersaturated solution containing 85 pounds of sugar and 15 pounds of water and have cooled it to 90°F (32.2°C) under controlled conditions. Now at 90°F a saturated solution will hold only about 69.5 percent sugar. Since we only have 15 lbs. of water present it will hold only 34 pounds of sugar at 90°F saturation temperature, therefore, some 51 pounds of sugar will crystallize upon beating.

Now, it is possible to calculate the number of BTU's absorbed per pound of sucrose when dissolved in a solution having an initial concentration B_1 to result in a solution of concentration B_2[3] In the foregoing example this results in approximately 18.7 BTU's absorbed per pound of sugar. In as much as the heat of solution reappears upon crystallization 18.7 BTU's must be liberated upon crystallization of one pound of the sucrose. Therefore, the crystallization of 51 pounds of sucrose will liberate about 952 BTU's. In order to calculate the rise in temperature due to the crystallization of the 51 pounds of sugar the specific heat of crystalline sucrose and the specific heat of a 69.5 Brix sugar solution at 90°F must be known. These values are equal to 0.305 and 0.62 respectively. Using these values about 0.46 BTU's for 100 lbs. will be required to raise 1 pound of the fondant 1°F, or 46 BTU's for 100 lbs. of the fondant. Therefore, the release of 952 BTU's would reflect an overall batch temperature rise of approximately 20.5°F provided no other heat losses or gains were experienced during the beating operation. Actually, in commercial practice ideal conditions such as these are never obtained and the re-

sults will be affected in proportion to the number and sign of the other variables present.

The change in volume that occurs when sugar is dissolved in water is composed of two opposing effects, one of which is greater than the other. The major effect is the increase in volume due to the additive volumes of the solvent and the sugar. However, accompanying this increase in volume is a smaller and opposing effect, that is, a contraction in volume takes place.

If we consider the major additive volume effect we have, for instance, an increase of 0.75 gallons resulting when ten pounds of sucrose is dissolved in one gallon of water; the total volume after dissolving being 1.75 gallons (1+0.75). Tables have been prepared by Bates and his associates[1] showing the increase in volume resulting when various amounts of sugar are dissolved in one gallon of water at 20°C (68°F). These results have been plotted and are shown in Figure 3 for convenience.

The phenomenon involving a contractive change in volume when sugar is dissolved in water has long been known but unfortunately the available data are conflicting and in some respects confusing.[2] The volume occupied by one pound of crystalline sucrose, if it were a continuous solid mass, free of voids, may be readily calculated. Thus, if the specific gravity of crystalline sucrose at 20°C (68°F) is taken to be 1.558, one pound of sugar will occupy a volume of 10.075 fluid ounces.[6] However, it is known that when this pound of sugar is dissolved in water it occupies slightly less volume because a concentration in the volume has taken place upon solution of the sugar. The most likely explanation for this phenomenon may lie in the formation of sucrose hydrates in the solution which have a lower specific gravity than the original crystalline sucrose. That sucrose actually forms hydrates in solution has recently been established.[13] Browne and Zerban[2] present a table indicating that only a contraction in volume occurs which varies with the concentration—the maximum being at about 60 percent. This table has been variously published, perhaps too unreservedly, since they also state that other investigators' data have shown that the maximum contraction is reached at about 40 percent concentration with a subsequent decrease until at 60 percent sucrose the contraction is 0; with concentrations above 60 percent sucrose an increase in the volume is said to occur.

The latter data appears to be corroborated by a study made on the change in volume that occurs when two sucrose solutions are blended together.[4] A nomograph was prepared in this paper for the purpose of solving extensive series of problems involving blending or solution operations with a minimum of time and effort. Figure 4 presents this nomogram and instructions for its use are included in the appendix for those who wish to use it.

If the values, calculated in the formentioned paper using the density of crystalline sucrose and the widely published density values of Plato[11] which are considered to be the most reliable, are plotted they result in the solid line curve shown in Figure 5. Thus, a maximum contraction of about 0.36 percent occurs at 40 percent concentration with a subsequent decrease to 0 percent at approximately 67 percent solids—the saturation point for sucrose at this temperature. The data presented by Browne and Zerban involving only contraction are also plotted (dotted line) in Figure 5 to show the difference in magnitude and change between the two sets of values.

The important difference between the date lies in the percentage contraction at essentially the saturation percentage at 20°C (68°F), i.e., Culp shows 0 percent contraction while those presented by Browne and Zerban shows about 1.3 percent.

Now let us consider the result of this contraction on the major additive volume effect using the data given in Figure 4. For instance, the increase in volume of a solution prepared by dissolving 8 pounds of sucrose in

FIGURE 3

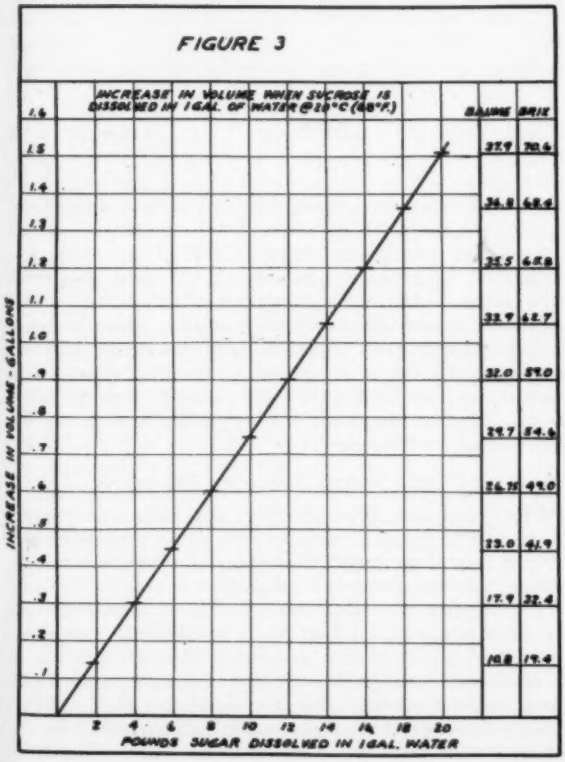
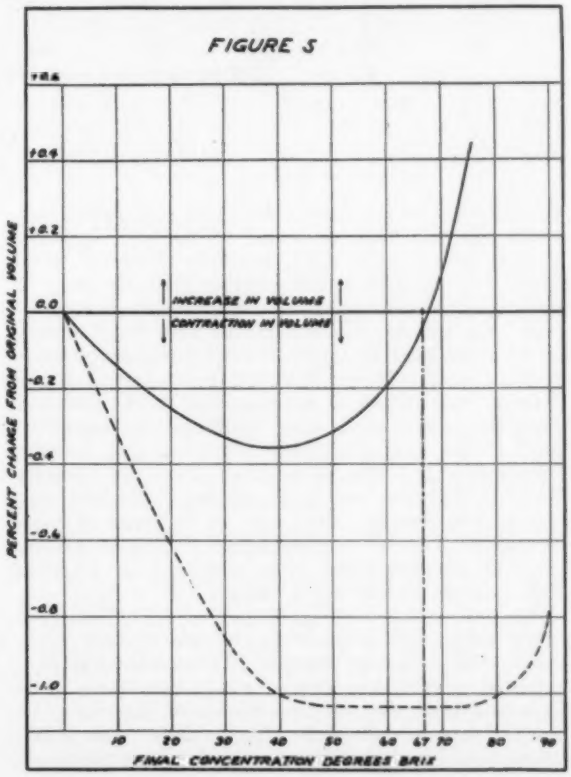
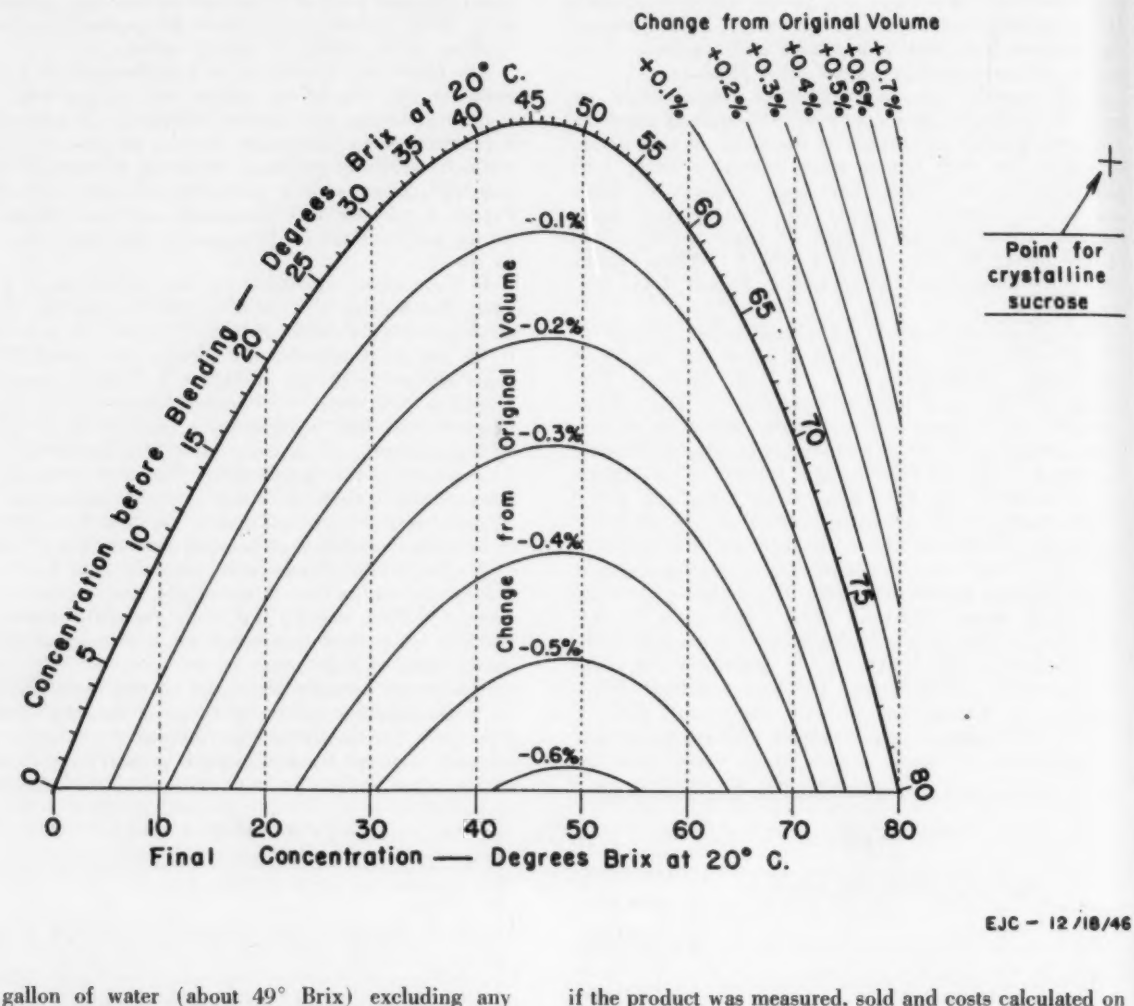

INCREASE IN VOLUME WHEN SUCROSE IS DISSOLVED IN 1 GAL. OF WATER @ 20°C (68°F)
INCREASE IN VOLUME - GALLONS
POUNDS SUGAR DISSOLVED IN 1 GAL. WATER
BAUME
BRIX

FIGURE 5



NOMOGRAPHIC STUDY OF THE CHANGE IN VOLUME THAT OCCURS UPON BLENDING TWO SUCROSE SOLUTIONS AT 20° C.



EJC – 12/18/46

one gallon of water (about 49° Brix) excluding any contraction, has been calculated to be 0.599 gallons; the final volume being 1.599 gallons.[1] However, from Figure 4 about 0.33 percent contraction takes place at this concentration resulting in a reduction in volume of about .005 gallons. Obviously, this very small change can be considered negligible for all practical purposes involving small volumes. However, if very large volumes of syrup were prepared, let us assume in the order of 1,000,000 gallons, then some 3,000 gallons would be "lost" if this contraction were not taken into account. Actually, no true loss is incurred since the resultant effect is a slight increase in the density of the final solution. Nevertheless, this effect may be the cause of small unexplained "losses" in manufacturing records that are found to be unbalanced when preparing or blending large volumes of sucrose solutions.

The possible practical significance of the difference in percent contraction between the two sets of data is suggested in the following example. If a manufacturer were preparing 1,000,000 gallons of a 67° Brix syrup from sugar and water, in one case he would experience no "loss" of volume while in the other instance, some 13,000 gallons would be "lost" or unaccounted for particularly if the product was measured, sold and costs calculated on a volume basis.

It should be clearly understood that the foregoing theoretical calculations based upon the data presented show those possible changes that may occur only if the operations could be performed under rigorously controlled, standardized conditions and no mechanical or evaporative losses occurred. In a practical sense such control may not be feasible and probably for all practicable purposes the overall effect of the contraction in volume may be disregarded.

Physical Effects When Sugar Is Dissolved

Other important physical effects take place when sugar is dissolved in water such as the osmotic pressure of the solution is increased, the vapor pressure is lowered and the freezing point is depressed.

The increase in osmotic pressure is of importance in the preparation of candied fruits wherein the candying is affected by gradually increasing the strength of a succession of sugar syrups applied to the prepared fruit. Since osmosis involves the process of the passage of a solvent through a semi-permeable membrane from a dilute solution into a more concentrated one, the moisture

originally contained in the fruit is "drawn out" through the cellular structure (the semi-permeable membrane) of the fruit diluting the more concentrated sugar syrup. The sugar syrup in turn diffuses back through the membrane into the fruit and gradually replaces the water originally present with syrup. This is repeated through each successive treatment of the more concentrated syrups until the final syrup is applied and the confection contains sufficient sugar concentration to prevent spoilage. The reason for successive treatments of higher concentration syrups lies in the fact that a single treatment with the highest concentration syrup would either dehydrate the fruit and cause it to become hard, tough and shrivelled resulting in an unsatisfactory product or soften the fruit excessively causing it to disintegrate into a jam-like product.

Lowering of Vapor Pressure

The fact that the vapor pressure is lowered is of considerable significance other than its important effect on raising the boiling point of sucrose solutions since there is less tendency for the solvent (water) to pass into the vapor state which affects the keeping properties and storage life of confections. D. W. Grover[5] has studied the relationship of the vapor pressure and moisture content for sucrose, invert sugar and corn syrup and has derived formulae by means of which the vapor pressure of most types of confections may be calculated from the composition.

It is important to keep in mind that while the foregoing physical effects take place in combination when sugar is dissolved in water the addition to or formation of other substances in the solution usually will tend to modify these in various ways. It is hoped that the information and date presented will be of some assistance in aiding the progressive confectioner in the interpretation of some of the results obtained when sugar is used in the manufacture of his confections. It also illustrates the possible practical potential use of the fundamental information available in the literature which may be applied to problems arising in any manufacturing processes that on the surface seem mysterious or unsolvable.

Appendix

Let us assume that we wish to mix a 10° Brix solution A with a 67° Brix solution B to produce a 50° Brix solution C. Using a straight edge locate on the heavy outer curved scale titled "Concentration before Blending," the point representing the lower concentration solution A (in this case 10° Brix) and connect it with the point on the same scale for the higher concentration solution B (67° Brix). Mark the point where the straight edge intersects the value for the final desired concentration (50° Brix) on the scale titled "Final Concentration" (intermediate points are located by interpolation between the dotted vertical lines). Then, using this point, read the volume change by interpolation between the lighter curves. In this case the contraction in volume is found to be equal to 0.27 percent.

For special cases, where solution B is crystalline sugar, connect the right hand portion of the straight edge with the "Point for crystalline sucrose." The left hand portion of the straight edge should intersect the value for the more dilute solution A as before. If solution A is water, it would connect with 0° Brix on the heavy outer curved scale. For instance, proceeding, as in the above example, if a 60° Brix solution is to be prepared from water and crystalline sugar connect the more dilute solution A value (0° Brix) with the "point for crystalline sucrose" B. The straight edge then intersects the desired final concentration C (60° Brix) slightly above the value of –0.2 percent on the higher inner curve. Therefore, the concentration in volume is equal to about –0.19 percent of the volume before dissolving. Thus, using the nomogram, it is possible to solve with ease any problem concerning volume changes arising from dissolving or blending operations at 20°C (68°F).

Edward W. Meeker, technical representative of American Sugar Refining Company, was for nine years a research chemist at Walter Baker & Co. He received a commission in the Navy in 1942. THE MANUFACTURING CONFECTIONER published his series of articles on Principles and Design of Chocolate Cooking Tunnels in 1943, which was put in booklet form, and was sold out within a few months.

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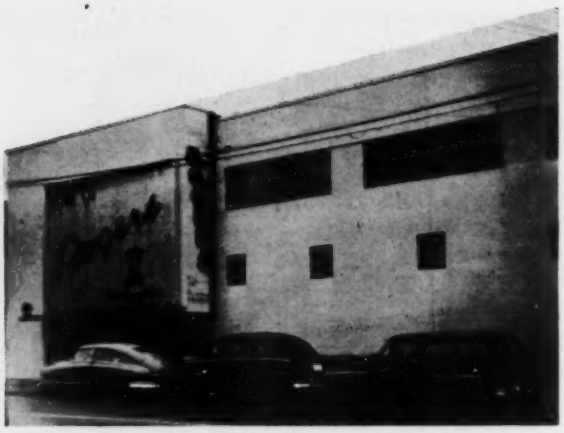


The expanded plant of the Rogers Candy Co. of Seattle.

Western Firms Complete Merger

Harry Brown Confections joins Rogers Candy Co. to double production in Seattle plant.

THE armed forces made famous an expression "Roger," meaning okey. That word might well be applied to the Rogers Candy Company, Seattle, which, with a $70,000 expansion, recently doubled production capacity.

The majority of the stock in the Rogers Candy Company was purchased in November 1944 by the Brown family. At that time the plant was located on Elliott Avenue West, but in 1947 a new plant was built at 315 West Mercer Street.

Confronted with a crowded kitchen, limited storage and packing facilities in the face of heavy war contracts, Rogers decided to change plant layout for greater operation economies with existing equipment. To achieve that, more space was required.

Another limiting factor was the operation of two entities, one in Seattle, the other at Tacoma, which meant management spent considerable time traveling. Further, there were duplications in plant maintenance, foremen and office administration which, with unification, could be eliminated with a corresponding increase in profits.

So the Rogers Candy Co., Seattle, famed for boxed chocolates, and the Harry Brown Confection Company, Tacoma, this year, merged under the former's name. Among other things, the consolidation meant that Harry Brown, formerly associated with Brown & Haley, Tacoma, could retire while his sons, Alvin H. (president) and Richard (in charge of city deliveries), and a son-in-law, E. E. Boyd (office manager), could take over. Always operating with a single sales force, sales management was left under the supervision of Mikal Dyrness.

The Brown Confectionary Company, established August 1944 at the suggestion of the U. S. Navy, was devoted exclusively to the production of vacuum-packed products, one of three plants on the west coast equipped for this particular operation. Its entire volume, during the war, went to the South Pacific.

Despite construction activity and rearrangement of equipment, the plant managed to turn out sizeable war contracts in August and September. A payroll of 50 persons was maintained. As the expansion, started in April 1950, neared completion in mid-October, equipment from Tacoma was installed in the new unit.

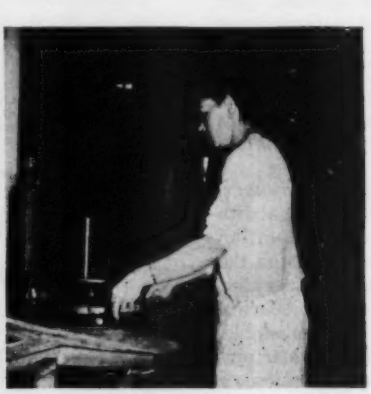
A letter calling attention to the new factory was dispatched to all retailers in October. "Proud as a peacock of operation unification," the text thanked firms for helping to attain the tremendous public acceptance. The announcement, signed by President Alvin Brown, was written on the firm's distinctive green and white letterhead.

Of greater importance to recipients, however, was the letter's reassurance that radio spots featuring the talking Duckling would be resumed this fall. Itemizing the publicity program, it stated a new series of billboards and promotion in Sunset magazine would appear shortly. The announcements, as are Rogers products, were sent to Alaska, Idaho, Montana, Washington, Oregon and California, in particular.

The Talking Duckling of radio fame has successfully made Rogers box of Ducklings its most popular line. Although introduced this year, "Dixies," a new specialty item is finding ready acceptance by the public.

Boxed in one to five pound sizes, Rogers' lines include a popular priced chocolate, a more expensive chocolate, all creams, all-nut, cherry, mint and several specialties for Christmas and Mother's Day volume. The vacuum pack, to date, features four items: Almond Omega, Parisian creams, pecan-caramel roll and almond-butter flake. Nine salesmen, in addition to two retail stores in

Above is a view of Rogers' operators filling vacuum cans in the new wing of the modern, air conditioned plant.



Having put the lid into place, an operator places a vacuum can on the sealing conveyor.

A vacuum packed can slides to a packing table to await shipment overseas.

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COCONUT NEWS & PREVIEWS

By Charles B. de Maya
Mgr. Franklin Baker Laboratories

and Max E. Ruehrmund
Mgr. Franklin Baker Industrial Service Laboratory

PRICE PROTECTION ANNOUNCEMENT

In order to assist confectioners in cost planning, Franklin Baker has announced a 90-day price protection booking on BAKER'S famous GEM BRAND PHILIPPINE COCONUT. This move offers buyers protection against any possible price increase and assures them of the lowest possible price in the event of a decline. This offer is in line with Franklin Baker's established policy of pricing on costs--not war scares or speculative opportunities.

COCONUT SUPPLY CABLE

San Pablo, Republic of the Philippines, Coconut supply continues at a high level with transportation availabilities normal and no scarcity of bottoms. The whole coconut outlook for 1951 continues optimistic.

EXPERIMENTAL COCONUT MACHINE

A leading candy machine manufacturer is working with Franklin Baker to develop an improved coconut bar forming machine. A series of in-plant tests have already been run and final tests are now in operation to perfect this machinery. Information concerning this new equipment can be secured from Franklin Baker.

COCONUT MAPLE CREAMS

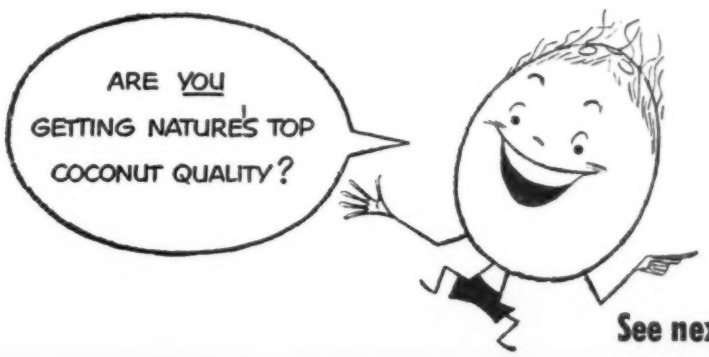
A new coconut maple cream has been developed and the result is an outstanding taste combination. These new creams incorporate BAKER'S CREAMED and GEM COCONUT in a soft maple cream fondant center. Complete formulas have been prepared for distribution to interested confectioners.

COCONUT CONSUMER DEMAND

Records for 1950 show that per capita consumption of coconut was far above prewar levels. Current estimates indicate that almost three pounds of coconut were consumed by each American family last year. A major factor in this great rise of coconut popularity in 1950 was the increased use for confections—particularly the many new coconut bars that were introduced last year.

NEW IMPROVEMENTS IN CONTROL OF COCONUT KEEPING QUALITY

Recent introduction of Rapid Moisture Meters and other rapid test methods especially developed for coconut and integrated with Franklin Baker's exclusive manufacturing methods have resulted in even further improvements in the control of coconut keeping qualities. For further information on this important factor in coconut processing, see the next page.



See next page

ARE YOU GETTING NATURE'S TOP COCONUT QUALITY?

Tree-Ripened Flavor and Modern Processing Assure the Finer Quality of Your Coconut Candies

Candy manufacturers know the importance of coconut as a "characterizing ingredient."

Your bonbons, bars, creams—whatever type of candies you produce—can be covered with chocolate, flavored with vanilla, or have cream centers and they're just candies. But the instant *coconut* is included in your formula, your pieces become *coconut* bonbons, *coconut* bars, *coconut* creams. And the eating pleasure is determined by the *quality* of coconut you use.

With coconut such an important factor in your manufacture, it's to your advantage to know how top coconut quality is created by Nature—and maintained by man.

Where Does Coconut Quality Begin?

Naturally, coconut quality is Nature's job.

Every 28 days, the top ring on the palm tree swells and a spathe (or shoot) appears. Soon after, it opens and blooms. From this beginning, a dozen or more coconuts reach *maturity* in nine to ten months' time.

It's the job of plantation experts—top-notch buyers and fieldmen—to keep a careful check on this growth. Coconuts must be picked at their peak of flavor—not before, not after. Otherwise, the finest qualities of the nut have not yet developed, or have deteriorated.

For certain, *natural* quality in flavor or texture cannot be processed into coconut—it must exist in the nut when it is taken from the tree.

What Does It Mean to "Keep" Coconut Quality?

Modern processing strives to preserve as much of the original coconut quality as possible.

This involves *strict* and *speedy coordination* on the part of personnel—all along the line. Coordination between buyers, who must control the supply of *tree-ripened* nuts moving into processing—and plant personnel, who must move the nuts through processing as quickly as possible.

SPEED is essential. Whole nuts must not be allowed to stand in high humidity or hot weather. Coconut, in processing, must not be exposed to the atmosphere for a longer time than necessary. In either case, time lost is *quality* lost.

What Causes Coconut Spoilage?

Coconut spoilage—resulting from improper selection of nuts, improper processing, or improper packaging—is definitely *your* concern.

Immature coconut-meat yellows faster, and will develop that "soapy taste" faster—because the free-fatty acid content is higher than at maturity. Similar spoilage occurs when mature coconut is allowed to stand idle during processing.

Improper washing by old-fashioned methods can result in an excess of moisture traveling into processing with the coconut. It can affect uniformity in shredding. It can also mean that, after drying, the coconut is packed at an improper moisture level, and mold may result.

Drying of coconut, by modern methods, "seals in" the rich coconut flavor *permanently*. Improper drying, however, can result in "soapiness," rancidity, or mold.

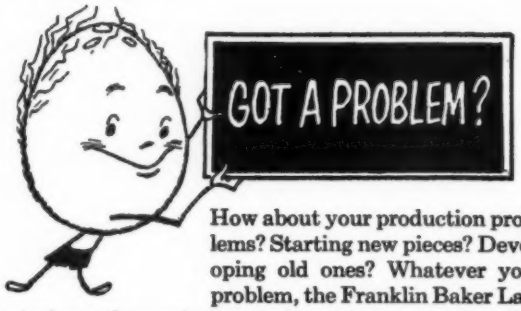
COORDINATION, SPEED, AND MODERN FACILITIES are the only insurance against these various types of spoilage.

You Can Depend on Franklin Baker Quality

The Franklin Baker method of processing coconut is the most modern and ideal in the industry.

Through a complete coordination of buying and processing in our San Pablo, Republic of the Philippines, plant—constantly checked through our modern, on-the-spot laboratory facilities—we offer you the finest coconut quality money can buy.

The coconut candy you produce can be no better than the coconut you use. So, if you want your candies to have more "buy-appeal," buy Baker's—and get Nature's top coconut quality.



How about your production problems? Starting new pieces? Developing old ones? Whatever your problem, the Franklin Baker Laboratories and expert personnel are at your service. Call or write us today. Franklin Baker, Hoboken, New Jersey.

HEADQUARTERS FOR COCONUT, FRANKLIN BAKER DIVISION, GENERAL FOODS CORP., HOBOKEN, N. J.

A type of coconut for every confectionery need. Complete line includes the following famous brands:

Gem Philippine Coconut *(10 varieties)* **Golden Toasted Coconut** *(7 varieties)*

Tender-Fresh Coconut *(4 varieties)* **Baker's Creamed Coconut** *(2 varieties)*

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President Alvin H. Brown checks on inventory in cooling chamber.

Seattle, cover the trade direct for department stores, drug stores, confectionary units and high-class food outlets.

The plant, isolated completely from other industrial units, is situated in a residential area. Consequently, the management points out, employees have no parking difficulties. Another employee benefit, provided by the expansion, is a lunchroom on the mezzanine where free coffee will be served.

Above is the original type vacuum container now used almost entirely by the U. S. Armed Forces.

Other features include relocation of the offices, an 18x60 foot cooling chamber where a 45-degree F. temperature is maintained, and, most important in the management's opinion, a large area for storage and packing facilities. An addition to the operations for the first time will be a repair shop, also located on the mezzanine.

Relocation of equipment constituted an important phase of the expansion. When the new unit, designed by architects Stuart & Durham, was finished on the exterior, the big push began. To make additional room in the kitchen and the dipping room, a 24" Greer enrober, 18" National Enrober and a Cisco Tumbler were moved into the new wing which opens directly into the old factory. Coincidentally the American Can vacuum packing equipment was removed from Tacoma. Only the installation of a bar-wrapping machine (for a five-cent peanut bar) remains to be done.

The new edifice, a beauty to behold, symbolizes Roger's eternal quest for perfection of product.

House Of Bauer's Expansion

An expansion program which entailed an expenditure of $35,000 was recently completed at the House of Bauer Candy factory in Lincoln.

The addition is used as a "cold" room for storing of chocolates and also provides more office room. It is a one-story addition built at the side of the present stone and brick structure.

President Raymond Bauer of the House of Bauer estimates that his firm uses 400,000 to 500,000 pounds of chocolate a year in its extensive candy manufacturing operations. The famous Russian Mints, developed by the House of Bauer, are sold the world over. Mr. Bauer says sales of the mints total 300,000 pounds a year.

Describing the expansion program and the need for more facilities, Mr. Bauer recalled the humble beginning of the business in 1931. At the start Mr. Bauer had only one employee beside himself and the candy was manufactured in a little basement. Today the firm has 55 employees. The company moved into its modern factory in 1946. The cost of the present building was $150,000.

The House of Bauer Candy Company's plant in Lincoln, Neb. The new wing is shown at the left of the building.

A section of the interior of the new cold storage room which is expected to increase the plant's capacity by 25%.

candy making for the beginner: Lesson IV

PRACTICAL EXERCISES IN THE MAKING OF BASIC FONDANT

by **ALFRED E. LEIGHTON**
Consulting Food Chemist & Candy Technologist

Read instructions carefully—be sure they are understood before proceeding.

Prepare, assemble and have ready the following equipment and supplies before starting: Kitchen scale, granulated sugar, corn syrup (Karo, Red label) 8 ounce measure, small scoop or tablespoon, double boiler (top, bottom-filled with cold water, and cover) candy thermometer (placed in hot water contained in a jug), wooden spoon or spatula, pastry brush, and set of measuring spoons.

Directions:—1. Place an empty bag on your scale to act as a container, and weigh off one pound of sugar into it (adjust weight by adding or removing sugar with the aid of the spoon or scoop). Pour this into the top of the double boiler.

2. Measure four fluid ounces of tap water and pour this over the sugar in the boiler.

3. Tare (the weight of an empty container) an aluminum measuring cup serves admirably for this purpose. Do this on your kitchen scale and note the weight shown on your scale; now weigh off six ounces of corn syrup into the container. The weights on the scale should indicate the weight of the container plus six ounces. Place the container with its corn syrup on one side until needed.

4. Measure ⅛th tablespoon of Cream of Tartar, and add this to the sugar and water contained in your double boiler. *Note.* When measuring powders with standard tablespoon or fractional measures thereof it should be done as follows: fill the measure with the powder by dipping, then draw the edge of a knife or spatula across the edges of the measure to level it off—this ensures proper volume for powders—do not use the flat, or blade of the knife or spatula to level off, because it tends to compress the powder, and falsify the volume. If your set of tablespoon measures only goes down to a ¼ tablespoon and you want an ⅛th proceed as follows: fill your ¼ tablespoon measure as described, and with your spatula or knife edge divide the volume of measured powder into two parts by drawing the knife lengthwise through the powder, thereby dividing it into two equal parts—discard one part, the remainder in your measure represents ⅛th tablespoon, close enough to serve its purpose.

5. Commence heating the sugar mixture in the boiler over a gentle flame. Stir until all the sugar is dissolved. Wipe down all sugar crystals from the side of the boiler into the mixture, using your pastry brush moistened with water, to accomplish this. Be particularly careful to do a thorough job on this because any crystals left adhering to the boiler sides can cause premature or early graining of the batch for they will act as a seeding. The crystals must therefore be dissolved. Cover the top of the boiler with its lid for a few minutes—allowing the steam to assist in the clearing of the sugar crystals.

6. When all the sugar is dissolved, and all crystalls washed down into the batch, add the corn syrup (previously set on one side) to the mixture. Invert the corn syrup container over the warm boiler so that the heat and steam from it, will thin the syrup and permit better drainage and emptying of the container's contents.

7. Remove the candy thermometer from the jug of hot water in which it has been resting, and place it in the sugar syrup in your boiler—clip the thermometer to the boiler side to prevent the instrument from rolling. Now raise the flame and boil the mixture briskly—do not stir during boiling because any of the mixture that climbs up the sides of the boiler as a result of stirring, would dry and leave particles behind that would be capable of seeding (cause it to start graining) the batch. Continue boiling until a temperature of 238 degrees Fahrenheit is shown on the thermometer. Remove the boiler from the heat.

8. Place it with the thermometer still clipped to the edge, in the bottom part of the boiler which was previously filled wih cold water. Do this over the kitchen sink—it will save a mopping up job—when the excess of cold water overflows from the bottom part as a result of displacement. Leave the whole assembly undisturbed. The cold water will hasten the cooling of the syrup, while the water itself picks up the heat and becomes warm in turn as it withdraws the heat from the syrup. As soon as this happens, very gently withdraw the top boiler and place it on one side. Empty the warm water from the lower boiler and replace it with fresh cold water, and re-immerse the top in it for additional cooling. Now read your thermometer, and as soon as this registers a temperature of 105, but not higher than 110 degrees Fahrenheit, remove the upper boiler from its water jacketted bottom part, and place the upper, with its cooled fondant syrup, on one side. Unclip the thermometer and place it in the hot water jug previously prepared to receive it.

9. Take the double-acting egg beater, and place it in the cooled syrup. Begin to whip or cream the syrup by working the egg beater. See that all parts of the syrup come within the action of the egg-beater by moving it around the circumference of the boiler while continuing to whip. As the creaming proceeds, the syrup will become cloudy and thicken up, because the crystals are beginning to form. The partially formed fondant becomes opaque and loses its gloss as more and more crystals form. Soon it will become too thick to cream with the egg-beater, so the creaming must be finished with a wooden spoon of suitable size. Gradually the fondant under the continued action of the creaming process, acquires a solid body and breaks away from the boiler sides.

10. Scrape the boiler sides to loosen the fondant, and add or press the scrapings to the rest of the fondant mass in the boiler, thereby consolidating the whole mass. At this stage the fondant can be gathered together with the operators clean hands, and shaped into a ball by squeezing or kneading until it is smooth and free from lumps. When this has been done, cover the fondant with a clean cloth that has been moistened with cold water, and the excess wrung out dry. This moist cloth cover will slow up the drying effect of the air. The boiler cover can now be placed on the boiler, and the whole thing set aside to ripen for from two to three days before using it.

An Alternative Way To Cream The Fondant Syrup. Instead of continuing the process as outlined in direction (8), pour the cooked mixture on to a cold water moist-

ened platter, (preferably taken from the refrigerator where it has been cooled for about 10 minutes or so. Moisture from the air will condense on the platter as it comes into the warmer atmosphere of the room and make it just right for what follows). Permit the temperature of the syrup to drop to 105 degrees Fahrenheit, and then start creaming by turning the mass backwards and forwards with the spatula. Continue this until the fondant is white, opaque, and thick. Be sure that every portion of the syrup is turned over and comes within the action of the spatula. Start kneading the mass by hand and continue until it is smooth and free from lumps. Cover with a clean damp cloth for about several hours, remove cloth and knead again until creamy and smooth. Store in an airtight jar until needed.

The cookie sheet or cooling slab can also be used for cooling and creaming the fondant. When using the sheet or slab, the cooked syrup is poured between bars set up in rectangular form on the sheet. The thinner the layer of poured syrup, the quicker it will cool—so the bars may be arranged to enclose a depth of one quarter inch of syrup when poured. The sheet should be sprinkled lightly with water before receiving the hot syrup. The finishing of the fondant is performed in the same manner as described under the platter method of cooling.

(*Note.* The reason for including Corn syrup and cream of tartar in this fondant formula is to control the formation of sugar crystals by retarding their formation. The cream of tartar will form some invert sugar in the processing, and the action continues at a slower rate after the fondant has been creamed and stored, thereby ensuring the plasticity of the fondant.) As has been shown, there are various formulas that can be written for fondant, each perhaps for a specific end-use. The one given here in these lessons is described as "Basic" because it can be used for the making of numerous items in which fondant is used. As the student advances in proficiency and learns the art, other formulas will come to his attention which he can experiment with for practice sake, and thereby broaden his knowledge and usefulness in the craft.

Making Wafers From Basic Fondant.—1. Divide the fondant you have made into two or four portions, depending on the number of flavors you wish to incorporate.

2. Place some hot water in the lower part of your double-boiler.

3. Put one portion of your fondant in the upper part of your boiler, and then place it in the hot water contained in the lower boiler.

4. Heat the bottom boiler just short of boiling, and in the meantime stir the fondant in the upper boiler. It will commence to soften and liquify—continue this until the whole of the fondant is liquid and free from lumps or particles of unmelted fondant. Do not overheat the fondant because if you do you will destroy the delicate crystal structure you have been at such pains to create. A temperature of 125 degrees Fahrenheit is highest for this type of remelted fondant—much good work can be done at considerably lower temperatures. It all depends on the formula, and the end use of the fondant. Now leaving your remelted fondant uncolored, add a few drops of oil of peppermint—sufficient to taste—and gently blend in the flavor by stirring.

5. Cover your cookie sheet with a layer of wax paper in readiness for the next process which consists in pouring the warm remelted fondant into your dropping funnel, the stick of which, should be in place blocking the outlet to prevent spillage. *Note.* Warm the funnel before pouring fondant into it by holding it under the hot water faucet, with the hot water flowing freely. When the funnel is warm to the touch, shake it free from adhering drops of water. There is usually sufficient heat in the metal to ensure its being dry after the treatment outlined: but if necessary wipe it dry with a clean cloth.

6. Approach the wax-paper covered sheet with your funnel filled with fondant, and funnel stick in place. Commencing at the top of either corner, and holding the funnel tube over it, raise the stick and permit some of the fondant to flow onto the surface—it will assume a disc-like form as it spreads. When a sufficient amount to cover a fifty cent piece has been allowed to flow onto the sheet, press the funnel stick in place to close the outlet, and move forward to another spot on the paper, about one inch or so away from the first. Repeat the dropping process until all the fondant has been allowed to run out. *Note.* If as a result of slow manipulation, the fondant cools in the funnel and becomes too thick to flow, return the fondant to the top boiler and warm it again over hot water in the lower boiler until the fondant is again in flowing condition. Pour it back into the funnel and continue the dropping process.

The sheet with its load of peppermint flavored wafers, can now be put on one side to permit the wafers to become firm. When they are firm enough to handle, each wafer can be loosened from the wax sheet with the tip of your spatula, and turned over to expose the underside to the air, until dry. When dry, the wafers are ready for eating.

In factory work a ridged rubber pad is used to receive the deposited fondant. The advantage to be derived from using such a pad is the ease with which the wafers can be removed from the pad, quicker drying of the wafers when turned, and the pleasing ridged appearance they possess. There is also the smaller tendency for the wafers to stick to one another when packed. Ridged rubber pads for the purpose can be purchased from confectioners' supply houses.

The dropping funnel is undoubtedly the nicest way to form wafers and obtain neat circular discs. In the

The MANUFACTURING CONFECTIONER *publishes here the fourth in a series of 12 monthly articles on candy making for the beginner. The publisher of the magazine feels these articles fill a gap existing in the confectionery world caused by the prevalence of departmentalization in manufacturing operations. This has discouraged the all around candy maker to the point where as a craftsman—he is a fast vanishing entity. The series is designed exclusively for the beginner to better his understanding of the function of ingredients and the "why's" of candy making. The course has been prepared by Alfred Leighton, consulting food chemist and candy technologist. He is a well-known figure in the confectionery field.*

absence of a dropping funnel a tablespoon may also be used. Using the spoon method, the fondant is ladled from the remelt boiler, the bottom of the spoon scraped on the edge of the boiler to remove the excess fondant (or your spatula may be used for the same purpose) and the contents dropped onto the waxed paper sheet, as previously described. The method is more tedious and messy than the funnel method, and wafers apt not to be so neat. A careful operator, however, with practice, can obtain pleasing results even with the spoon, and it suffices for the purpose of the exercise.

Some variety and artistry can be brought to bear by tinting and flavoring fondant batches with desired flavors and colors. As a practical exercise in this—remelt a batch of fondant as before, and when it is completely liquefied and free from lumps and unmelted particles, add any one of the following flavors according to preference: wintergreen, spearmint, lime, orange, lemon, almond, cinnamon, or clove. Next add the corresponding colors, pink for wintergreen, green for spearmint, lime or almond, yellow for lemon, orange for the flavor of that name, and red for cinnamon or clove. The whiteness of the basic fondant will necessitate the use of more color than in other tinting work; but when it has been added in sufficient quantity according to judgement, stir and blend in both the flavor and color additions, until all are uniformly spread through the mass. The colors can be added in stages, stirring & stopping between each stage to observe the tint; and finally stopping when satisfactory levels are reached. Pleasing novelty flavors can be obtained with rose or violet flavors (continental style) and corresponding colors to match. The student will derive much satisfaction and pleasure from the exercise and bringing to bear, or developing, his own artistic skills while he is learning the "Whys" of his craft.

Some other things that can be made with basic fondant. Being basic, the fondant can be used for the making of quite a variety of items. Space does not permit of their description at this stage and for the purpose of this course. Never-the-less, fruits and nuts can be used as centres and dipped in melted fondant to make attractive confections. To carry out such a purpose, remelt a batch of fondant as described previously, avoid over-stirring during the remelting procedure—this could cause growth in the size of the crystals which is to be avoided for smooth effects. Color and tint the remelt if desired. Remove the top boiler from the lower part. Drop washed and thoroughly dried malaga or tokay grapes, one by one, into the melted fondant, remove them with the dipping fork, and place them on a waxed paper sheet to solidify. Work as quickly as possible to avoid the excessive thickening of the fondant which would make it hard to manipulate. Nuts such as filberts, pecan halves, walnut halves etc. can also be treated in the same way as grapes. The pieces from canned fruit cocktail can also be coated—after they have been turned into a clean kitchen wire strainer, and allowed to drain free of adhering syrup. The strainer can be supported on a suitable vessel to catch the syrup. A little—very little of the syrup, if it is of the heavy type—can be used to thin the fondant providing the syrup is first warmed. There is some added flavor value to the use of the syrup if its use should become necessary.

To Be Continued.

Next installment will deal with fudge and fudge making.

The pre-eminent candy makers of the nation have tested "BURCO" Products and found that they are outstanding.

You, too, will find them reliable, economical producers of repeat business.

Outstanding formula using NU-KREME

We recommend that you try NU-KREME, the finest nougat cream on the market. An outstanding formula for EASTER EGGS using Nu-Kreme is: Place in a kettle 16 lbs. Sugar, 9 lbs. Corn Syrup and water. Cook to 265 degrees. Beat into 8 lbs. NU-KREME and beat short. Add 4 lbs. of Cocoanut Butter melted or cut fine. Add 1 lb. of Powdered Sugar, mix quickly, add Fruit and Nuts to suit. Pour out thick on slab, cut in squares, roll in size desired and dip in Chocolate. These Easter eggs will keep fresh for a long period of time.

NU-KREME Grade A of all Nougat Creams.
CONFECTIONERS' PECTIN for cut slab jellies.
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FRESH COCOANUT PASTE Ready to use for Chocolate or Bon Bon Centers.
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BURCO NOUGAT CREME The All Purpose Nougat Cream.
TOPPINGS Marshmallow, Butterscotch, Caramel and Chocolate Fudge.

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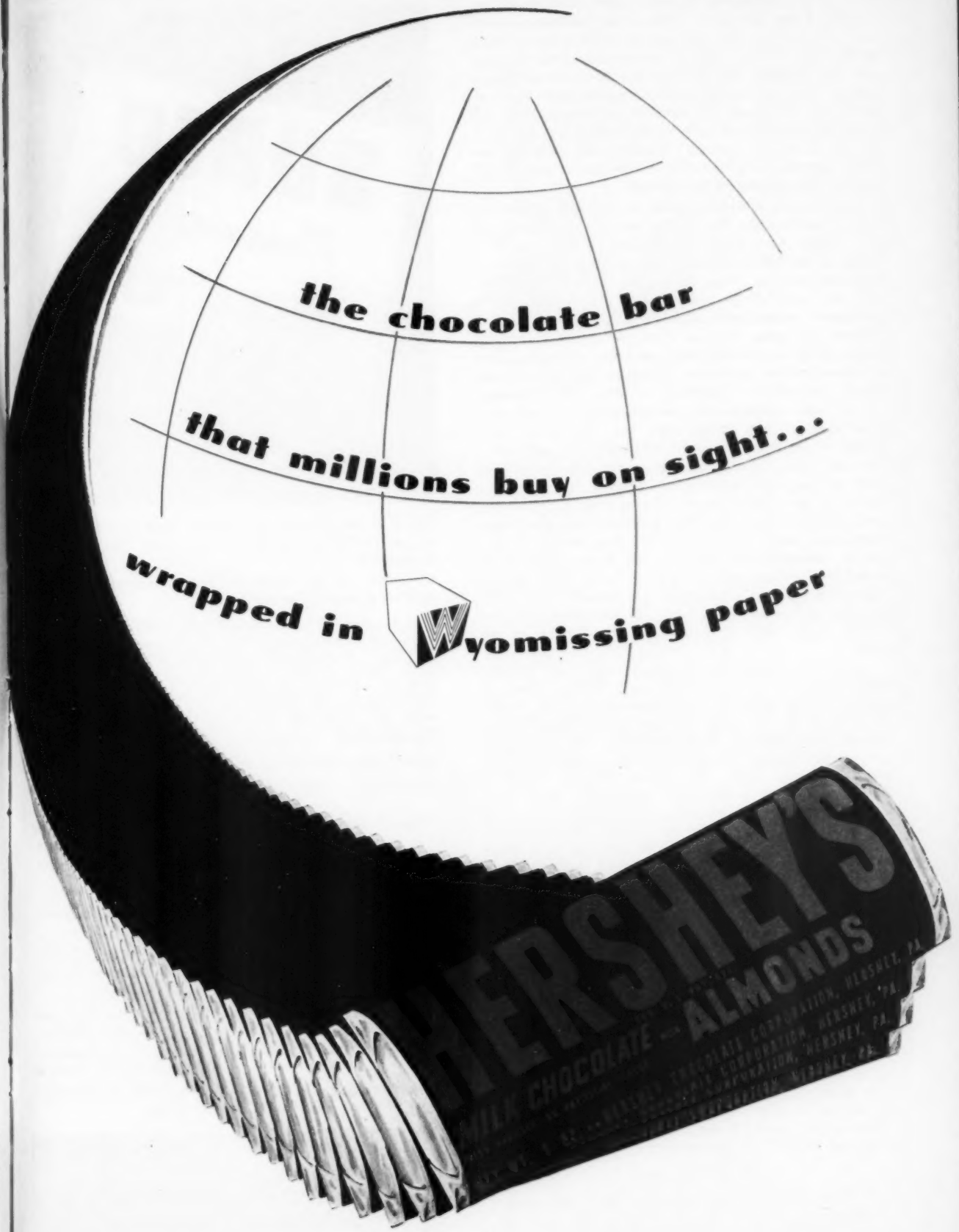
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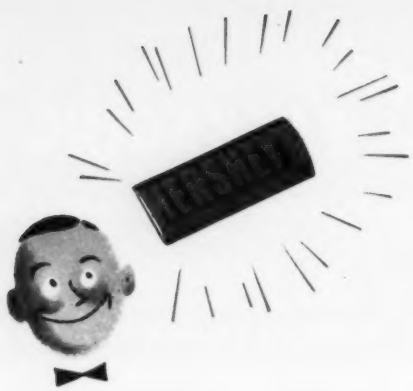

Millions reach for

HERSHEY'S Chocolate Bars . . .

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by their familiar
and most distinctive wrap.
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THIS SECTION APPEARS MONTHLY IN THE MANUFACTURING CONFECTIONER

How glassine is tailored into candy wraps

By CLARA BALDWIN

APPROXIMATELY 80% of all bar candy is wrapped in glassine paper, with the greater portion of that percentage being wrapped in opaque glassine. The physical qualities of glassine, particularly its high dense character, make it a natural for candy protection, along with its newer companion, the plastic coated glassine.

An article appearing in the August 1950 issue of Modern Packaging, entitled "The What and How of Glassine" and written by George C. Borden, Jr., technical director for Riegel Paper Corporation, and Paul K. Wolper of the packaging research laboratory of the same company, gave an analysis of the basic properties and applications of glassine paper. Under a sub-heading "Converted Glassine", the article stated: "The inherent characteristics of glassine paper which differentiate it from other papers are enhanced many times by the variety of modifying operations and materials which are available to the glassine converter."

That article listed the following ten important qualities which are inherent to glassine, brought about by the use of chemical wood pulp, a high degree of hydration and densification of the sheet in supercalendering:

1. resistance to grease
2. resistance to oil
3. resistance to the passage of odor
4. high tensile strength
5. wide range of desired weights, from 15 to 50 lbs. per ream of 24 x 36—500
6. high gloss and sheen
7. transparency
8. suitability for further converting (coating)
9. excellent printing surface
10. tasteless, odorless, and non-toxic

High on the list in the selection of glassine for candy wraps are the two points: grease resistance and the fact it is an economical paper having an ideal surface for printing. Further the quality of its being impervious to odors is highly desirable. Due to the dense, smooth texture of the glassine, it will take inks, lacquers or waxes

courtesy, MILPRINT, INC.

in a continuous film on its surface, yet prove flexible for heat-sealing when lacquer coated.

Recently the Riegel Paper Corporation, who manufacture both types of paper in great quantities, have worked out some interesting new wrappers with both the glassines and their plastic coated "diafane", to fit the specific needs of their customers' products.

Case histories on certain specific wraps for candy show some interesting detail of variations made in processing and in converting to adapt the regular run sheet to meet individual requirements. The paper company worked closely with their customers to effect just the proper variation required.

An excellent example of that tailoring is the opaque glassine wrapper used for one bar item. Glassine was selected for the job because of its high grease resistance; an opaque sheet was chosen to give a sanitary appearance to the inner wrap. In this instance, even more than the usual grease resistant quality of ordinary glassine was desirable, as well as a greater flexibility. To accomplish both of those purposes, special treatment began from the very first step in the process of making the paper.

The chemical wood pulp from which glassine is made, usually a sulfite pulp, is beaten to secure a high degree of hydration. There is considerably more mechanical work done on pulp to make it suitable for glassine paper production than for any other grade of paper. This mechanical action, or beating, consists of a rubbing and pounding of the fibres without actual cutting. During the process the pulp takes on a gelatinous form.

Sparkling Colorful Wraps SELL Hard Candy

NEW Forgrove

MODEL 22-B

WRAPS UP TO 150 PIECES PER MINUTE

Hard candy, individually wrapped, keeps better, looks more attractive, SELLS FASTER. And here's the machine that leading candy makers use for high-speed, low-cost wrapping.

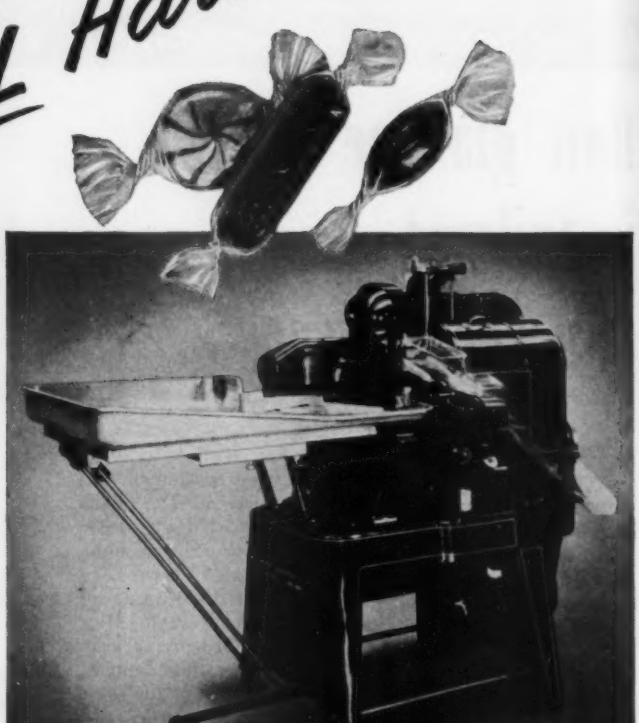
The 22-B wraps from 120 to 150 pieces per minute with only one operator. It handles soft-center pieces as well as hard candy in various shapes — ball-shaped pieces, cylindrical pieces, short sticks, square toffees, small pops, etc. It is easily adjustable for different sizes. Slight variations in size and shape are automatically taken care of by the machine.

Fashions an extremely tight fan-tail twist on which printed matter may appear, if desired. You may use cellophane, waxed paper or reinforced foil, and a printed understrip may be used with a transparent overwrap.

The broad versatility of the 22-B will enable you to produce a very attractive and distinctive line of candy—one that lends itself to real volume and good profit. So get all the facts on this new improved machine now.

Consult our nearest office.

NEW YORK CHICAGO BOSTON ATLANTA CLEVELAND DALLAS
DENVER LOS ANGELES SAN FRANCISCO SEATTLE TORONTO MEXICO, D.F.



Forgrove 22-B Hard Candy Wrapping Machine

OTHER FORGROVE MACHINES

The well-known Forgrove line comprises models 42-B, 42-C, and B-8 for cutting and wrapping toffee and other high boiled candy... 26-D machine for wrapping individual pieces of chocolates and other items in various shapes and sizes, using foil, cellophane or waxed paper... and 22-D and 22-G machines for wrapping stick candy, pops, etc.

We'll be glad to study your requirements and give complete information on the Forgrove model indicated.

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS

SOLE AGENTS IN THE UNITED STATES AND CANADA FOR FORGROVE MACHINES

To increase the grease resistance for the bar wrap, the pulp was beaten longer than for usual run glassine. Titanium dioxide pigment was added to the fibres at the beater, for opaquing the sheet, and the final sheet was extended in the supercalendering operation.

Supercalendering densifies the sheet changing it from a greaseproof paper into a glassine. It is a very critical operation. Being subjected to a temperature ranging from 250 to 300 deg. F, the pressure is varied according to the grade of glassine and may be as high as 2,000 pounds per inch width at the bottom nip. The supercalendering is made up of alternating calender rolls of paper and steel, with only the metal rolls driven. The slippage between the paper and the paper calender rolls improves the sheen and gloss of the sheet. Final gloss can be varied, by control of the supercalendering, to meet special requirements.

Glassine was chosen in another instance, also a bar item, because of the special quality from a greaseproof standpoint, which would not permit the chocolate to bleed through the wrap. In addition glassine has such an excellent printing surface, and the design for this particular wrapper calls for 95% ink coverage. Glassine proved to be the most economical material for such a job, since it permitted a continuous film to be laid over the surface. Further the sheet does not absorb the ink, which in this case was a very costly product as the design calls for a metal ink and one of the special brown type. Finally it leaves a good gloss and shine to the finished surface.

This wrapper is printed by the rotogravure process, and the paper stock is a 30 pound bleached glassine.

Turning to an example with a plastic coated wrapper, a pouch-type package of Riegel's diafane: In designing this candy package two special features were desired. First of those was better product identification, to give the customer's high quality candies a package which would make them appear distinctive and give the impression of quality. The paper selected for the job was an opaque diafane coated sheet, one which had exceptional strength, gave a perfect seal that could be opened easily without a tear tape, and one which was protective to insure freshness. Made of specially bleached and refined kraft pulp, the paper for this package was supercalendered and finally coated with the diafane.

"ECHO" IT'S RICHNESS
Fruleen
Chocolate
"ECHO" IT'S FLAVOR
Fruleen Candy Co.
MAKERS OF SILVER HEART AND GOLDEN HEART 5¢ CLUSTERS
MADE IN OUR AIR CONDITIONED DAYLIGHT CANDY KITCHENS

The diafane sheet was rotogravure printed, and heat-seal coated with Du Pont's nitrocellulose. These pouch packages are being run on the manufacturers' present packaging equipment, Stokeswrap machines.

This new pack is proving quite successful, from all standpoints, as well as stacking neatly on retail counters without slipping and sliding.

Another package or candy wrap being done with the same type sheet, the opaqued diafane, is for a taffy item. This assignment posed something of a problem and the job of finding the proper wrap to fill all the needs took a study and testing period of two to three months.

The candy company wanted a sheet with a web which could be heat-sealed on their present automatic packaging

courtesy, MILPRINT, INC.

in 50 years
WE'VE LEARNED...
THE IMPORTANCE OF LONG LASTING FRESHNESS
THE EYE APPEAL OF A COLORFUL CAN TO YOU
THE SALES VALUE OF A RE-USABLE CAN
This is Our Fiftieth Anniversary
A HALF CENTURY OF METAL PACKAGING
1901
1951
THIS is the fiftieth year of Service to Heekin customers in expert color lithography and metal packaging . . . in contributions, sales-wise, to the confection industry. The Heekin organization, old in experience— young in ideas, is at your service.
HEEKIN CANS
THE HEEKIN CAN COMPANY, CINCINNATI 2, OHIO

equipment, Hudson Sharp package machinery. But further they needed a wrap which would peel free from the taffy, as well as be strong enough to hold together when the candy inside it was cracked by a sharp blow to break the taffy piece for eating. The solution was a different heat-seal lacquer, a member of Goodyear's pliolite family.

For another of that same company's candy products, this one a bar, opaque glassine was selected for the wrapper, Riegel's "Snopaque." The package is glue sealed, instead of heat-sealed, and is run on Lynch equipment.

Still another package uses an over varnish for added luster on top of the printed label centering a transparent glassine sheet.

Nicolet Paper Corporation cites some interesting cases of tailoring candy wrappers from glassine. In the first case, twin bars were to be packaged under one wrapper with a chocolate layer board boat inside the wrapper. The boat had sharp corners. To add a further specification, the paper had to be greaseproof since the customer did not want to use an inner wrap. Also, the chocolate enrobing machine left a small hump at the end of these bars at the top where the chocolate coating was cut off. This showed as a rough hump, and caused breakage of the wrapper. In addition to those special requirements to meet, the paper had to have the usual printing qualities and all the other desirable characteristics of good glassine. Nicolet finally worked out a solution by making a good strong sheet of glassine with a high finish and of a very soft texture which allowed the manufacturer to form the wrapper around the bar, maintaining full production. Yet inasmuch as the sheet was heavily plasticized, the wrapper would stretch considerably and eliminated breakage over the hump of the bar.

In the second case, the candy concern makes a five-cent bar which is round in shape, flat on the bottom, and has a conical hump on the top with nuts in the top coating. This customer had been using cellophane, because he had not found a glassine that would stand up without breakage and permit the full use of a packaging speed of 88 per minute. Nicolet made a very plastic, soft, opaque glassine of 25 pound basis which handled the job to complete satisfaction, permitting the bars to be wrapped at the rate of 120 per minute with no appreciable breakage.

For the third case, another candy manufacturer had a similar problem with a large ten cent bar of approximately the same shape. In other words, the bar was round, but flat on the bottom, and having a conical hump on top with nuts in the top coating. This proved to be a most difficult problem to solve, but finally Nicolet met the customer's requirements satisfactorily by increasing the basis weight from 25 to 30 pounds and giving them an extra soft, pliable sheet of opaque glassine.

In answer to a request sent out by the Glassine and Greaseproof Manufacturers Association for information on the use of glassine for candy wraps, Deerfield Glassine Company wrote: "When the first machine was developed for wrapping circular chocolate patties, it was found that the very severe tucking operation of the machine to fold the glassine under the pattie all the way around was too much for the opaque glassine which had heretofore been used for ordinary candy bar wrappers. So it was necessary to develop a sheet of opaque glassine which was extremely flexible. This was done by a different treatment of the fibre in the beaters and on the paper machine and by plasticizing the paper in a different way. Now no difficulty whatsoever is found in running that special glassine on these pattie wrapping machines.

"Another problem was presented by the necessity of

"CUTTING SUGAR CANE"—AN ORIGINAL LITHOGRAPH BY HENRY E. WINZENREID

Filling America's Sweet Tooth

Sugar . . . and the countless things made with it . . . travel a long road from cane to consumer. Along the way, "sweets" need the help of protective papers to guarantee their wholesome goodness. These needs are often met with special Riegel Papers . . . tailor-made for the functional packaging of such products as candy, cake, chewing gum, ice cream, sugar and prepared desserts.

There's a Riegel Paper for almost any requirement you may have in protective packaging . . . a paper you can depend on for economy and production efficiency. We feel sure we can serve you in the same effective manner we now serve the sales leaders in so many different fields. Write us today.

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For Maximum *Attractiveness* Use SWEETONE Flossine

Flossine is the candy mat supreme . . . pure white . . . bulky . . . sure to enhance the interior appearance of your candy package. Embossing, cutting and die cutting to your requirements.

Write Today for a new folder containing actual samples of our complete line of Sweetone Paper Products for manufacturing confectioners including:

Shredded Papers	Chocolate Dividers
Waxed Papers	Boat & Tray Rolls
Wavee Parchment	Layer Boards
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Candy Box Paddings

George H. Sweetnam, Inc.

282-286 Portland Street, Cambridge, Mass.

SWEETONE PAPER PRODUCTS

Representatives in Philadelphia, Detroit, St. Louis, Chicago, Dallas, New Orleans, Los Angeles and Portland, Oregon.

having a glassine that would slip easy for the making of bon bon cups, which illustrate the fact that glassine papers can be tailor-made for special purposes."

Bon bon cups are shipped out in nested form and it is essential that these cups come apart singly in an easy manner so as not to slow down the efficiency of the girls who insert the chocolate and other candies in these cups. When glassine was first used for this purpose it was found that glassine, at times, would adhere to itself just enough so that sometimes two or even more cups would come out at a time. In order to prevent this, a special slip-easy grade of glassine, which had a very slippery surface, was developed.

To sum up the advantages of glassine paper, here are some of its outstanding features, which are listed by Nicolet under the heading "Why Glassine?"

Bleached Glassine:

1. Strength
2. Sanitary appeal
3. Good Printing surface
   a. Surface non-absorbent to ink, making
      1. Inks stand out
      2. Less amount of ink necessary
   b. High sheen, making inks have gloss
   c. High speed of printing possible
4. Odor free
5. Transparency
6. Non-sticking of chocolate
7. Availability
8. Economical price because light weight papers are satisfactory
9. Gluability for machine wrapping
10. Greaseproofness and non-oil spotting

In addition to the properties of bleached glassine; Opaque Glassine has additional advantages:

1. Opacity
2. Whiteness to give inks contrast
3. High gloss

With inner wraps there are these further advantages:

1. Additional strength
2. Additional greaseproofness
3. Non-sticking
4. Cushioning of bars from shock
5. Color under films

Slip easy glassine for bon bon cups means:

1. Slip easy properties to facilitate separation
2. Wide choice of colors

Then there are the laminations. Taken all together the possible variations with glassine seem endless. With such a flexible medium, a special wrapper can be tailored to meet an infinite variety of product requirements. The proper custom-made paper can be made and converted to meet a specific end-use, and protect candy products to the customer, attractively, economically.

• **The Missouri Pacific Railroad** has devised the Speedbox—a small metal container for shipping less than carload freight. It is sealed at the shipper's place of business after being loaded with merchandise and is not opened until it is delivered to the consignee. Constructed of aluminum reinforced with steel, the box is made in two standard sizes: one is four feet high, four feet wide and three-and-a third feet deep; the other is not quite as deep. Each box has four roller wheels, two rigid and two swivel, and can be handled by hand with lift trucks. It can be loaded with as much as 1200 pounds of freight.

It has to look good before it tastes good!

Call it "package attraction" . . . but attractive colorful wrappers, neatly sealed are highly important in successful point of sale merchandising. Lynch WRAP-O-MATICS do a fast, accurate wrapping job even if your product is irregular shaped or fragile, with or without boats or cards. See what they can do for your problem.

★

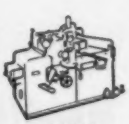
PAR AIR COMPRESSORS

PAR REFRIGERATION COMPRESSORS

WRAP-O-MATIC CANDY & COOKIE WRAPPING MACHINES

LYNCH CORPORATION

PACKAGING MACHINE DIVISION
TOLEDO, OHIO



MORPAC PAPER PACKAGING MACHINES

MORPAC BUTTER & OLEO CARTONING MACHINES

GLASS FORMING MACHINES

For Better Packaging!

PARTITIONS

That Give Perfect Protection

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LAYER BOARDS

BOATS **NECKS**

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Reasonable Prices Assured — Prompt Deliveries Guaranteed

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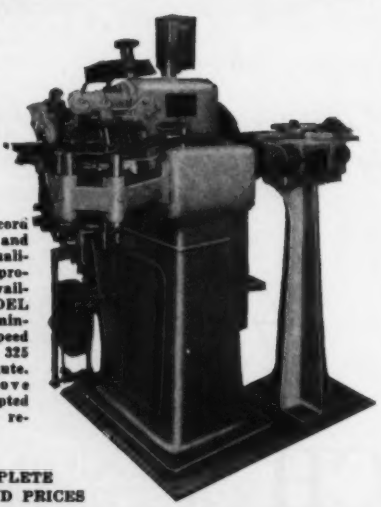
IDEAL WRAPPING MACHINES

FAST-EFFICIENT-RELIABLE

CANDY manufacturers both large and small *prefer* IDEAL WRAPPING MACHINES because they provide the economies of fast handling along with *dependable, uninterrupted operation.* In use the world over, IDEAL Machines are building a service record that stands unmatched and unchallenged! Our unqualified guarantee is your protection. Two models available: SENIOR MODEL wraps 160 pieces per minute; the new High Speed Special Model wraps 325 to 425 pieces per minute. Investigation will prove these machines are adapted to your most exacting requirements.



WRITE FOR COMPLETE SPECIFICATIONS AND PRICES

IDEAL WRAPPING MACHINE CO.
MIDDLETOWN, N. Y. U. S. A.
EST. 1906

50th Anniversary Finds Heekin Under Same Ownership

FIFTY YEARS ago, James Heekin started the Heekin Can Company. He was a packer of coffee, tea, baking powder and spices in the busy river town of Cincinnati, when he decided that he needed his own can manufacturing plant. In 1901, he started making tin cans in a plant powered by water flowing from the old Erie Canal, on which canal boats traveled from Cincinnati to Toledo. The water, having finished its journey southward through Ohio to the end of the Erie Canal, which was never connected to the Ohio River, continued in a slough to the river as waste water.

Other smart manufacturers seized upon this free water power to operate machinery. Old timers still recall that sometimes Heekin had to shut down when companies "upstream" used too much water for power and there was none left for Heekin.

This year, the Heekin Can Company joins the list of 50th anniversary companies that have made America strong. James Heekin lived only three years after starting the company, dying in 1904. At that time his eldest son, James J. Heekin became President, and today he is Chairman of the Board. The Heekin Can Company, today operates plants in Cincinnati, Norwood, Ohio; Springdale, Arkansas; and Chestnut, Tennessee, producing millions of plain and lithographed cans. Everyone in the big Heekin organization is quick to tell you that Albert E. Heekin, who served as Secretary and Treasurer from the very beginning until 1928, when he became President, is responsible to a large extent for the great growth of the Heekin Can Company, aided by his capable brothers. Daniel M. Heekin rose from Secretary Treasurer in 1928 to Executive Vice-President in 1946 and became President of the company in 1948.

In Cincinnati, their home town, the name Heekin is synonymous with stability, character and success. Lake boats and river steamers are named after the Heekin family and so is one of the largest river-rail terminals in the country. They appear as directors of banks, manufacturing companies and are prominent in civic work, yet there is a desire for anonymity that has been passed down from father to son and to grandson.

In 1946, two new names were added to the list of officers of the Heekin Can Company. Both were men who came into the Heekin organization as young men and forged upward, familiar with every detail of this large company. C. A. Rolfes was elected Vice-President in charge of sales and A. F. Rassenfoos became Secretary and Treasurer. These are the first men other than a Heekin to have these responsibilities.

Today, there is a third generation of Heekin men on the job, having been delayed somewhat by World War II, in which they saw active service. This year, those who are in charge of the various operations of the Heekin Can Company, join with the founders in celebrating a half-century of progress in the can manufacturing industry. These names are already well known in the canning industry, Albert E. Heekin, Jr. Assistant to the President; James J. Flynn, Assistant Treasurer; Charles L. Heekin,

metal containers.....

....are the spice of life for candy

and-

we also manufacture all types and sizes of containers for any purpose — with a personal interest in designing an attractive package to meet your needs.

Quality OLIVE CAN COMPANY *Service*

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PLAIN • DECORATED • LITHOGRAPHED
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450 N. LEAVITT ST., CHICAGO 12, ILLINOIS

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Are you looking for an experienced salesman? We can put you in touch with experienced candy salesmen and candy brokers covering practically every territory in the United States.

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Company.....

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Assistant to the Vice-President in Charge of Sales; J. G. Cahill, Manager General Can Sales; Edward J. Nolan, Manager Packer Can Sales; Richard L. Sayre, Manager Cincinnati Plant; J. K. Browning, Manager of Norwood, Ohio and Chestnut Hill, Tennessee, plants; Frank J. O'Brien, Jr., Manager, Springdale, Arkansas plant; H. C. Jensen, Manager Lithography Department and Donald J. Heekin, Manager, Defense Materials Division.

James J. Heekin is Chairman of the Board; Albert E. Heekin, Chairman of the Executive Committee; Daniel M. Heekin, President; Clarence A. Rolfes, Vice-President in Charge of Sales and A. F. Rassenfoos is Secretary-Treasurer. These officers with R. E. Heekin and W. V. Heekin make up the Board of Directors.

Coordinate Package Conference

Mr. Couch of the packaging division of General Foods Corp. gave a very interesting talk before the Institute of Food Technologists meeting in New York on the 17th of January, 1951. He emphasized the need of coordinated package conferences of all divisions of the company, including production, purchasing, research, product development, and merchandising and sales. He deplores the common practice of sales departments putting a definite date for introduction of a product when the product development division has produced a product that they think will sell well, and when little or no consideration has yet been given to the package.

He recommends that each interested department be included in a preliminary conference to get their ideas and limitations on a package, and then followed by work within the packaging division on setting up preliminary packages to be tested in hand made samples. Then another conference to decide on a final package and a full plant test. This schedule would give the packaging department time to work out the best package for product protection at the most economical cost.

On the subject of packaging materials, he suggests that firms continually experiment with new films on the market, that at the time have no application to present products. In a short time they may be just the film to use for a new product, or the only one available for replacing a film no longer available. There are many new combinations of films now on the market, such as Saran laminated to Kraft, polyethelene laminated to Saran or to cellophane, glassine laminated to diaphane, and a very high gloss glassine. The alert manufacturer will test these films and papers in relation to their present and future plans on packaging.

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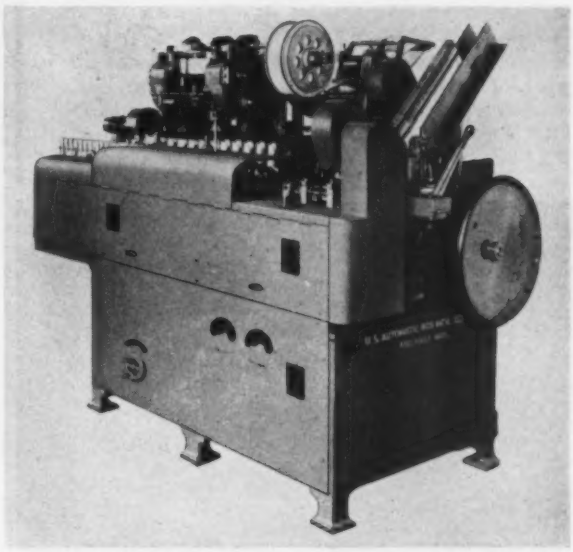
9 S. Clinton St. Chicago, Ill.

Eliminate CHANGE-OVER TIME

The Versatile C-10-CC Candy Filler Packs all these types of candy without adjustment



Candy manufacturers and distributors who package a wide variety of hard, semisoft or easily marred candies will find the Model C-10-CC Volumetric Filler ideal for their multiple requirements. It will handle all their products without adjustment when package size and volume are kept uniform. The Model C-10-CC automatically extracts the flat carton, opens it, tucks bottom flaps, cuts, forms and inserts liner into the carton and then volume fills the correct amount of candy. When desired, the liner may be omitted. Final operation on the C-10-CC folds the top of the liner closed and tucks and closes the top flaps of the carton. An automatic check weigher rejects any underweight packages. Only one operator is required to supervise the machine, and speeds of 60 filled cartons per minute are available.

Check the many varieties of candy packages shown and you'll see how the C-10-CC can fill your packaging problem. Write for complete details today.

US NET & GROSS WEIGHING ★ PACKAGE FORMING & FILLING ★ CARTON SEALING, LINING, WRAPPING ★ BOX MAKING

AUTOMATIC BOX MACHINERY CO., INC.

Owning and Operating NATIONAL PACKAGING MACHINERY CO. ★ CARTONING MACHINERY CORP.

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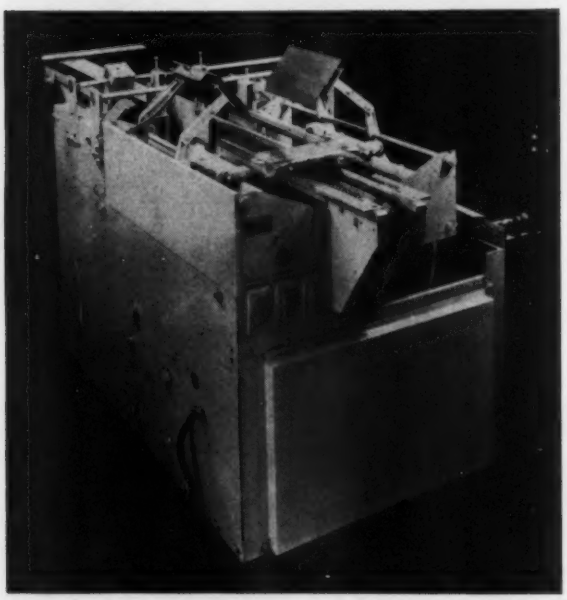
What's NEW in candy PACKAGING

The products described help keep you up-to-date on new confectionery equipment, materials of all types. The items below are coded for your convenience. For any further information, write to THE MANUFACTURING CONFECTIONER, *9 S. Clinton St., Chicago 6, Ill. Use the coupon on next page.*



Wrapping Machine for Multiple Packages

A new wrapping machine was designed primarily for wrapping frankfurters into a tight, compact retail unit with five sided visibility. It has been found that this machine can be adapted to wrapping other products such as a package of candy bars, trays or boats of candy, etc. where a multiple unit of merchandise is desired. Specifications of the machine are—adjustable range for packages from 3½ to 16" long, I to 10" wide, ¼ to 5" high. Simple crank adjustment takes care of package length. Two adjustment knobs regulate the folding blades for package height. Adjustment for width of packages is by knobs at the base of the folding blades. Other specifications on request. *Code No. P2A51.*

Automatic Filler and Conveyor

A new combination of filling machine and conveyor has been designed to fill flat bottom containers. It has versatility in production and speed and use. *Code No. P2B51.*

"Peppy Bunnies" Container

The world famous artist, Gustaf-Tenggren, has his merry little rabbits cavorting all over a new fancy metal container for Easter packaging. It is decorated in yellow, green and Easter purple, white enameled inside, with double lid. Inside dimensions are 4⅝ x 7⅜" x 2" deep. *Code No. P2C51.*

Platform Box Gluer

A new platform box gluer, can apply a coating of adhesive to platform style boxes up to 3 inches high. The box section is fed through the gluer which applies an even coating of adhesive over the entire surface. The operator then places the glued piece on the platform.

Adhesive is placed in a removable stainless steel tank and kept at the correct workable temperature with a thermostatic control. Coating thicknesses are accurately regulated with a coating adjustment control. Thorough adhesive coverage is accomplished by a ductor roller that applies the right amount of glue over the entire area. *Code No. 2D51.*

New Label Gummer

A completely new label gummer which applies adhesive at a carefully controlled uniform temperature to ungummed labels has been announced.

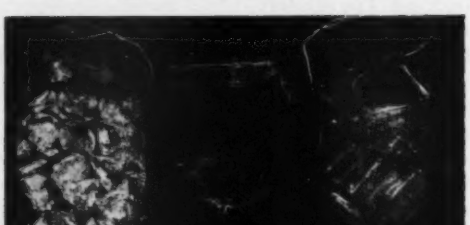
This 9-inch gummer was designed to cover jobs where maximum adhering tenacity is required, and for all adhesives which require heat at time of application to the label surface. The glue pot is surrounded by a water jacket in which the water is heated to any desired degree, from room temperature to boiling point, through an adjustable thermostatically controlled heating element. *Code No. P2E51.*

New Combination Packer and Conveyor

A new combination for filling flat bottom containers with dry products such as powders, nuts, crystals, candy, popped and unpopped corn, etc. has been announced.

Floor model of packers, singly or in dual set-up are used with the all new, endless belt conveyor. Containers are fed to the incoming side and are stopped by a control finger under the filling spout—and held until the finger

IMPORTED CANDY NOVELTY BAGS



Mesh Bags For Hard Candy, Candy Corn, Kisses, Jellies, Chocolate Coins, etc.

TINSEL WIRE MESH BAGS—Silver and gold open weave mesh of the finest tinsel wire. Available in various sizes, economically priced. Prices and samples upon request.

Although these bags are in free supply now, and we do not expect any shortage in the near future, we recommend immediate consideration. Orders will be filled as registered.

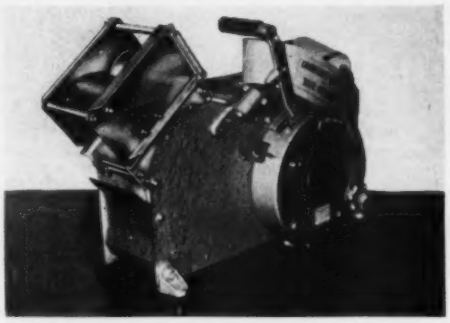
ENTERPRISE INTERNATIONAL
320 W. 37th St. New York 18, N. Y.
LOngacre 4-7621

releases the filled container to the outgoing side of the conveyor. This assures positive fill with no spillage.

To eliminate dusting, the machine can be supplied with a telescopic filler spout which will seat itself gently on top of the container while it is being filled.

All machine parts exposed to the product are aluminum and rust proof. Filling hopper, rotary dial plates, cups, spout etc. are all removable for easy cleaning.

The conveyor is powered by a 1/8 H.P. gear head motor. The filling machine requires a 1/4 or 1/3 H.P. motor depending on necessary power. All machines are equipped with Variable Speed Transmissions. *Code P2F51.*



Code Dating, Name Marking and Advertising

This new equipment is being used to identify those containers which are sealed with tape. The identification may consist of a code date, a combination of code date and name, the name and address of the company, or an advertising message. *Code 2G52*

Little Giant Rotary

A boon to manufacturers with modest requirements is the "Little Giant" rotary bag sealing machine. It is a smaller version of the Amsco heavy duty sealers with the same principles of fully automatic control of pressure, time and heat.

Heat is controlled within close limits by means of an accurate adjustable thermostat, assuring uniform heat on light or full load.

The sealing head is swivel-mounted and is instantly adjustable for sealing bags at any angle from vertical to horizontal. And the height is adjustable by setting the split mounting bracket at any required position on the vertical shaft.

The machine can be fed from left or right to suit the feeding operation, by simply revising the direction of the motor. Equipped with a fold over blade for folding bag tops. Also used as a top guide for straight sealing without folding and as a top guide for header label work. *Code M1F51.*

Circle Code Numbers and Mail Coupon for Literature on Any Item Discussed in This Section to

The Manufacturing Confectioner
9 S. Clinton St. Chicago 6, Ill.

P2B51	P2D51	P2F51	M1F51
P2A51	P2C51	P2E51	P2G52

Name .....

Firm .....

Address .....

City ..... **Zone** ..... **State** .....

A WELL-DESIGNED PACKAGE

increases the Prestige of a company as well as the sale of its products.

CONSULTATION WITH US

regarding the design of your packages may well prove worthwhile, and carries with it no obligation.

LUCIAN BERNHARD STUDIO

1 EAST 53 - NEW YORK 22

Well Packed – Easier SOLD!

Use WEINMAN Transparent Boxes

Make your products more appealing by packaging them in WEINMAN TRANSPARENT PLASTIC CONTAINERS . . . they enhance the appearance, increase the appeal.

Ideal for special holidays and year around sales stimulation.

WRITE TODAY!

Samples available.

Our illustrated catalog features packaging suggestions.

Weinman Brothers, INC.

MANUFACTURERS

3260 W. GRAND AVE., CHICAGO 51

Letter from France

Robert Whymper, Confectionery Production, Vol. 16, *No.* 9 (1950)—A report on conditions as seen in France and written in the inimitable Whymper style. Large selections of loose chocolates of excellent quality are sold by the kilo. American chewing gum and soft drinks have invaded France. Sugar is plentiful and good, unrationed hard-boiled sweets are abundant.

Progressive Processing: Chocolate

Ernest J. Clyne, Confectionery Production, Vol. 16, *No.* 9 (1950)—This deals with the reprocessing of chocolate. The old process of making chocolate paste is described. Chocolate tempered by hand was full of bubbles and was coarse and dull. Cocoa butter enabled fondants or cream centers to be coated. Hand dippers were used first, machines coming later. The latter use less viscous chocolate. The enrober was invented by a Frenchman and was hand controlled. So far, nothing has been invented that produces as good work as good hand dippers. Fat bloom was unknown in the early days. Modern enrobers have lowered the operating cost of coatings.

Progressive Processing: Packaging

Confectionery Production, Vol. 16, *No.* 10 (1950)—Modern production units are designed for continuous operation. The obsolesence of machinery and the need for replacement with modern equipment is discussed. Modern processing plants produce the maximum amount of product with the minimum amount of labor, these being equal to the best hand made items. More foods are wrapped because of hygienic reasons and to increase consumer acceptability. The general factors contributing to good packaging are cited.

Substitutes for Sugar

Alan M. Maiden, Food Manufacture, Vol. 25, *No.* 11 (1950)—The sweetness of the common sugars is tabulated. The blending of Hydrol, a by-product of the corn sugar refiner, with honey and then refining produces a product of light color and without taste other than sweetness. Date syrup and Hydrol may be blended but the result is a darker product. These two substitutes can be used as replacements for invert sugar.

The Problem of Chocolate Bloom

H. A. Neville, N. R. Easton and L. R. Bartron, Food Technology, Vol. 4, *No.* 11 (1950)—The structure of chocolate, segregation of fat in the bloom, X-ray evidence of fat crystallization, control of bloom by tempering, modification of chocolate, and accelerated stability tests are discussed.

The Essential Oils

Dr. Ernest Guenther, Vol. 4, *xlv plus* 752 *pages, illustrated,* 1950, $12.

Volume Four continues the series on essential oils and consists of monographs on the oils derived from the Gramineae, Lauraceae, Burseraceae, Myrtaceae, Umbelliferae and Geraniaceae. Dr. Teikichi Hiraizumi, Takasago Chemical Industry Co., Ltd., Tokyo, Japan, wrote the sections dealing with Camphor and Camphor Oils. Mr. A. R. Penfold and Mr. F. R. Morrison, Museum of Technology and Applied Science, Sydney, Australia, are the authors of the sections on Australian Eucalyptus and Tea Tree Oils.

Of special interest to the confectionery industry are the monographs on Cinnamon, Cassia, Clove, Eucalyptus, Sassafras, Anise, Lovage, Fennel and Coriander Oils. Other food manufacturers will find the sections on Pimento, Angelica, Asafoetida, Caraway, Carrot, Celery, Cumin, Dill and Parsley Oils to be of interest.

The method of presentation may be illustrated from the section on Oil of Cassia. The author after a brief introduction, discusses this important flavoring oil starting with the producing regions, habitat and range, planting, harvesting, and continuing with distillation, yield, quality of oil, marketing, adulteration, production and exports, physicochemical properties and concluding with the analysis, chemical composition and uses.

Copious references are made to the previous literature and additional readings are suggested. This volume deserves a place on your book shelf adjacent to the previous volumes.

Reviews of previous volumes have appeared in THE MANUFACTURING CONFECTIONER; Vol. 1 on page 70, March 1948; Vol. 2 on page 58, May 1959, and Vol. 3 on page 18, January 1950.

—W. H. C.

Brokers . . .

For new candy lines, list your firm in the Confectionery Brokers' Section of THE MANUFACTURING CONFECTIONER and THE CANDY BUYERS' DIRECTORY. Low rate is only $15 a year.

THE MANUFACTURING CONFECTIONER
9 S. Clinton St., Chicago 6, Ill.

CODE DATING
CANDY BARS

Automatic—Any Speed
5 to 10 Built-in Digits
Permits quality control and
proper stock identification

KIWI CODERS CORP.
3804-06 N. Clark St., Chicago 13, Ill.

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TODAY many companies are faced with the need to promote new products and obtain more intensive market coverage without increasing advertising expense. And as usual Mother Necessity provides an answer—better media selection. In applying media to markets and coordinating advertising with sales plans, all investments should be made on the basis of verified circulation information in connection with dependable market data.

The facts by which the advertising value of publications may be judged are given in the reports issued by the Audit Bureau of Circulations. This cooperative and nonprofit association of 3300 advertisers, advertising agencies and publishers—

1 **Has established standards, definitions and rules that make it possible to measure, evaluate and compare the paid circulations of published media.**

2 **Maintains a staff of experienced and specially trained circulation auditors to audit the circulations of publisher members.**

3 **Issues reports giving advertisers the factual information that is indispensable to economical and effective space buying.**

Included in the verified information in A.B.C. reports of business papers is a breakdown of the paid subscribers by occupation or kind of business. Thus advertisers know how much of the circulation goes to the specialized markets in which they are interested, can select media and write copy accordingly.

Other information in A.B.C. reports: How much paid circulation; how much unpaid; where the subscribers are located; what they pay for the publication; whether or not premiums are used; how many subscribers are in arrears; how many subscriptions are renewals.

It is only when media is selected on the basis of such factual information, as provided in A.B.C. reports, that advertisers can be sure of the greatest value for their advertising dollars. That is why this business paper is a member of the Audit Bureau of Circulations. Ask for a copy of our A.B.C. report and then study it.

SEND THE RIGHT MESSAGE TO THE RIGHT PEOPLE

Paid subscriptions and renewals, as defined by A.B.C. standards, indicate a reader audience that has responded to a publication's editorial appeal. With the interests of readers thus identified, it becomes possible to reach specialized groups effectively with specialized advertising appeals.

The MANUFACTURING CONFECTIONER

9 S. Clinton St., Chicago 6 — 303 W. 42nd St., New York 18

A.B.C. REPORTS—FACTS AS THE BASIC MEASURE OF ADVERTISING VALUE

For Candy Buyers . . . . .

CANDY MERCHANDISING

Candy Merchandising is edited and published exclusively for the volume candy buyer. This is the one medium that is truly and completely devoted to the distribution problems of the candy industry. From cover to cover, page to page, editorial and advertising deals with the profitable buying and selling of candy, and is, therefore, of primary interest to the candy buyers. The editorial departments will cover just *one* field, the merchandising of candy, but will reach out to all the various types of wholesale and retail buyers that channel candy to market, and will serve their needs for a complete and comprehensive source for buying information and news of merchandising and sales.

Your BASIC Sales Promotion to your PRIMARY MARKET

Ask us for a sample copy, we will be glad to send it.

THE MANUFACTURING CONFECTIONER PUBLISHING CO.

9 South Clinton St., Chicago 6 **303 W. 42nd St., New York 18**

Manufacturers' Practical Recipes

G. S. Ranshaw, General Editor, 400 *pages,* 1950, $10.50. This is a general formulary 'comprising processes and recipes for the manufacture of commodities used in all the industries, arts and professions.' Confectioners may be interested in formulas for the preparation of Extracts, Synthetic Fruit Essences and Flavourings, Jams, Jellies, Almond Paste, and Candy Formulas. About seven pages are devoted to candy recipes, including cream centers, caramels, fudge, fruit bars, and toffee. Chewing gum, horehound candy and spiced gum drop formulas are given in the Supplement.

The scope of the book is broad as formulas are given for Veterinary Remedies, Beverages, Cosmetics, Soaps, Paints, Boiler Compositions, Leather Preparations, Inks, Polishes, Explosives, etc.

This book was printed in Great Britain and the quality of paper used is poor.

—W. H. C.

Colorimetry

Deane B. Judd, U. S. Dept. of Commerce, Nat. Bureau of Standards, NBS Circular 478, 56 *pages,* 1950, $0.30. Color is defined and basic principles of its measurement are outlined. The most useful collections of material color standards (Lovibond, Arny, Maerz & Paul, TCCA, Ostwald, Munsell) are described, and the most widely used one-dimensional color scales are explained. Three pages of references are included.

This is a concisely yet clearly written treatise on colorimetry and will prove of value to the research man who desires to set up color standards on a variety of products.

—W. H. C.

CANDY EQUIPMENT PREVIEW

Is published exclusively for

PURCHASING
and
MERCHANDISING
EXECUTIVES

Be sure your name is on Our Free Mailing List

Fill in Coupon below and send it in to us now.

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9 S. Clinton Street
Chicago 6, Illinois **(EN-4)**

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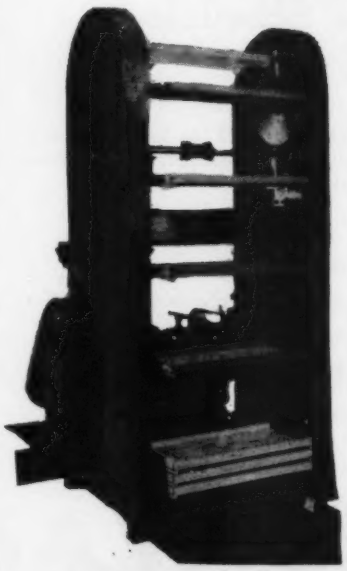
Cut Handling Costs—Save Labor with a
CURRIE AUTOMATIC
STARCH TRAY STACKER

Order Now for Prompt Delivery



- *Gives You Increased Production*
- *Eliminates Hand Stacking (completely automatic)*
- *Reduces Tray Breakage*
- *Improves Sanitation*
- *Can Be Used with Bausman, Greer, National or Any Other System*

This is a must for economical operation in high volume production.

CURRIE MANUFACTURING COMPANY
1837-43 Grand Ave. *Engineers to the Candy Industry* **CHICAGO 22, ILL.**

The MANUFACTURING CONFECTIONER'S

Candy Clinic

The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Some samples represent a bona-fide purchase in the retail market. Other samples have been submitted by manufacturers desiring this impartial criticism of their candies, thus availing themselves of this valuable service to our subscribers. Any one of these samples may be yours. This series of frank criticisms on well-known branded candies, together with the practical "prescriptions" of our clinical expert, are exclusive features of The MANUFACTURING CONFECTIONER.

Chewy Candies: Caramels, Brittles

Code 2A51
Chocolate Coated Caramels
6 ozs. for 49c

(Purchased in a chain drug store, Chicago, Ill.)

Appearance of package: Good.
Box: One layer type, top printed in green and red.
Appearance of box on opening: Good.
Milk Coating: Fair.
Center:
Color: Good.
Texture: Good.
Taste: Good.
Remarks: Coating is not up to the standard used on this priced chocolates. Highly priced at 49c for 6 ozs.

Code 2B51
Chocolate Coated Nut Crispies
5½ ozs. for 49c

(Purchased in a chain drug store, Chicago, Ill.)

Appearance of package: Good.
Box: One layer type, white printed in dark brown. Cellulose wrapper.
Appearance of box on opening: Good.
Coating: Milk chocolate: Good.
Center: Molasses and peanut butter.
Color: Good.
Texture: Good.
Taste: Good.
Remarks: A well made piece and good eating.

Code 2C51
Peanut Brittle
1 lb. for 55c

(Purchased in 5c and 10c store, Chicago, Ill.)

Appearance of package: Good.
Box: Two layer type, top white printed in brown. Imprint of peanut brittle in brown. Cellulose wrapper.
Brittle:
Color: Good.
Texture: Too hard.
Peanuts: Not roasted enough.
Remarks: Suggest peanuts be roasted more, and half again as much salt be used to improve flavor of brittle.

Code 2D51
Vanilla Caramels
6 pieces, 1⅜ ozs. for 5c

(Purchased in a chain drug store, Chicago, Ill.)

Appearance of package: Good.
Size: Good.
Wrapper: 6 caramels, cellulose wrappers, overall cellulose wrapper printed in white.
Caramels:
Colors: Good.
Texture: Good.
Taste: Good.
Remarks: We have examined these caramels a number of times and always find them very good. This is the best 5c caramel package we have examined for some time.

Code 2E51
Walnut Chews
1¾ ozs. for 5c

(Purchased in a chain drug store, Chicago, Ill.)

Appearance of package: Good.
Size: Good.

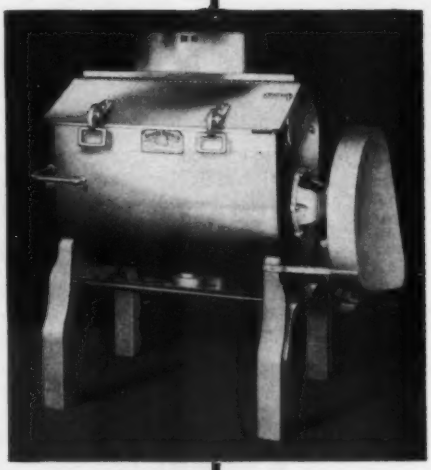
Candy Clinic Schedule For The Year

The monthly schedule of the CANDY CLINIC is listed below. When submitting items, send duplicate samples six weeks previous to the month scheduled.

JANUARY—Holiday Packages; Hard Candies
FEBRUARY—Chewy Candies; Caramels; Brittles
MARCH—One-Pound Boxes Assorted Chocolates up to $1.00.
APRIL—$1.00 and up Chocolates; Solid Chocolate Bars
MAY—Easter Candies and Packages; Moulded Goods
JUNE—Marshmallows; Fudge
JULY—Gums; Jellies; Undipped Bars
AUGUST—Summer Candies and Packages
SEPTEMBER—All Bar Goods; 5c Numbers
OCTOBER—Salted Nuts; 10c-15c-25c Packages
NOVEMBER—Cordial Cherries; Panned Goods; 1c Pieces
DECEMBER—Best Packages and Items of Each Type Considered During Year; Special Packages, New Packages

for Better Marshmallows

the SAVAGE BEATER



. . . . **IS YOUR ANSWER.** ***The Savage latest improved sanitary marshmallow beater is constructed with stainless steel tank, shaft, paddles and breaker bars—100% sanitary.*** This beater is considered standard by manufacturers. Built for strength and durability, it assures perfect manipulation of each batch. Hundreds of users in the United States and foreign countries prefer the Savage Beater for its economy in operation and performance in production, because it saves time, space, and operating cost. Four 200 pound Savage Beaters will supply a mogul for continuous operation.

THE FIRST COST IS THE LAST COST

- ***Unexcelled for volume and lightness***
- ***Stainless construction—100% sanitary***
- ***No corners for contamination***
- ***Outside stuffing boxes—no leakage possible***
- ***Maximum beating for volume***
- ***Faster heat discharge from batch***
- ***Creates volume suction of cold air***
- ***Large water jacket for quick cooling***
- ***6" outlet valve for quick emptying***
- ***Less power needed with roller bearings***
- ***Large two piece air vent—sanitary***
- ***Direct motor drive***
- ***Size available: 200 lb. or 110 gal. capacity***

Savage oval type marshmallow beater also available with stainless water jacket, galvanized cast iron heads, paddles and breaker bars in 150 gallon and 200 gallon sizes.

Since 1855

SAVAGE BROS. CO.

M. A. Savage, President • Richard J. Savage, Jr., Vice President

2638 GLADYS AVE. CHICAGO 12, ILL.

Wrapper: 10 pieces wrapped in wax paper in a cardboard boat. Overall cellulose wrapper printed in green and white. Imprint of walnuts in brown.
Chews:
Color: Good.
Texture: Good.
Taste: Very good.
Remarks: The best package of this kind we have examined in some time.

Code 2F51
Chocolate Coated Honeycomb Chips
8 ozs. for 49c

(Purchased in a chain drug store, Chicago, Ill.)

Appearance of package: Good.
Size: Good.
Container: Long narrow tray printed in blue, overall cellulose wrapper.
Coating: Dark. Fair.
Center:
Color: Good.
Texture: Very good.
Taste: Good.
Remarks: Coating is not up to the standard used on this price chocolate. Highly priced at 49c for 8 ozs.

Code 2G51
Assorted Hard Candies
4 lbs. for $1.79

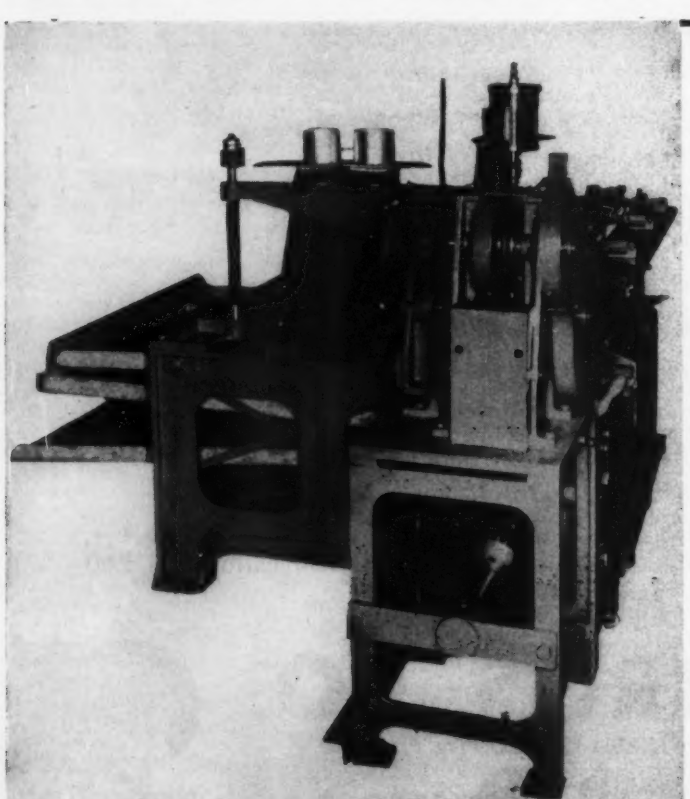
(Sent in for analysis #4704)

Appearance of package: Good.
Container: Large size tin pail, gray color. Large white paper seal printed in red and black.
Hard candies:
Colors: Good.
Texture: Good.
Stripes: Fair.
Flavors: Good.
Remarks: Should be a good seller at this price. Cheaply priced at $1.79. Suggest a $2.00 price.

Code 2H51
Assorted Chocolates
1 lb.—No price stated

(Purchased at a retail candy store)

Appearance of package: Good.
Box: Square one layer box, white glazed paper, top printed in gold and green. Imprint of Christmas tree in colors. Tied with red ribbon; outside printed Christmas paper wrapper.
Appearance of box on opening: Good.
Number of pieces:
Dark coated: 14.
Light coated: 13.
Chocolate sprills: 2 cellulose wrapped.
3-layer piece: 1, cellulose wrapped.
Bon Bons: 6.
Coatings:
Colors: Good.
Gloss: Good.
Strings: Good.
Taste: Good.
Dark coated centers:
Date: Good.
Vanilla caramel: Good.
Hard candy blossom: Good.
Jelly: Good.
Coconut cream: Hard and dry.
Brazil: Good.
Cordial cherry: Good.
Orange peel: Good.
Molasses chip: Good.
Ting ling: Good.
Chocolate cream: Dry.
Light coated centers:
Glace pineapple: Good.
Vanilla caramel: Good.
Maple cream: Hard and dry.
Filbert cluster: Good.
Vanilla cream: Hard and dry.
Vanilla caramel & Vanilla cream: Good.
Molasses chew: Good.
Butter cream: Good.
Solid chocolate and nuts: Good.
Cordial cherry: Good.
Sprill piece-chocolate paste: Good.



Model E Automatic Hard Candy Machine

For producing spherical and Seamless shape hard candy

Balls • Kisses • Barrels • Olives

There are over 100 different shapes.
For clear or pulled goods.
For hard candies that are free of fins and sharp or abrasive edges.
It makes hard candies that are smooth and easy on the mouth.
One operator spins directly to the machine.
Capacity 3,000 to 10,000 pounds.
Our Model E incorporates all the developments of previous experience plus automatic self-compensating clutch which takes care of the variation in batch temperature.

Peerless Fondant Coolers:
Werner Rapid Cooker & Cooler for syrups, blends etc.
Peerless Chocolate Kettles
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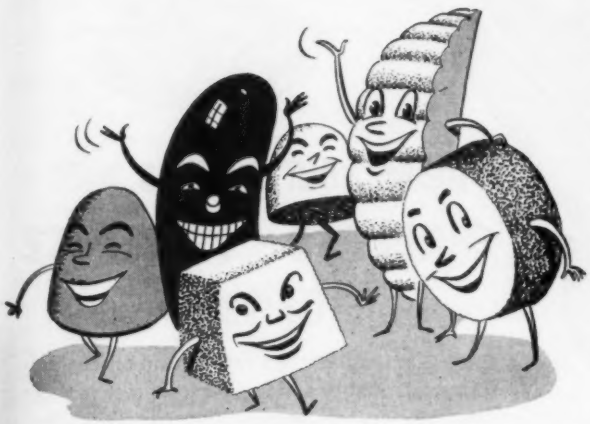
The Boardless Automatic Depositor, printer and cleaner, without the use of starch trays

There is no Substitute for Experience

John Werner & Sons, Inc.
713-729 Lake Ave., ROCHESTER 13, N. Y.

Happier Gum Candies!



Gum candies are a mighty happy lot when made with General Mills' B-2455 wheat starch! (What gum candy wouldn't be proud to possess clear, tender, melt-in-the-mouth qualities?)

In any case, *you'll* be happy with these advantages reported by users of B-2455 wheat starch: increased yields up to 4%, longer shelf life, no sweat tendency, reduced need of flavoring materials.

General Mills' B-2455 wheat starch has a high water absorption and retention capacity. It is highly purified and modified. *Thin-boiling.* B-2455 has no cereal taste or odor.

Make caramels, nougats? Use General Mills' Paygel wheat starch (formerly A-22). Costs less than imported root starches—gives you superior products with less trouble. Chemically modified and highly purified, Paygel is *thich-boiling* starch produced under exacting laboratory controls.

Free samples of Paygel and B-2455 wheat starches are yours for the writing—without obligation—to:

General Mills, Inc. *Special Commodities Division*

400 2nd Ave. So.
Minneapolis 1, Minn.

Room 2701, 80 Broad St.
New York 4, N. Y.

208 S. LaSalle St.
Chicago 4, Ill.

Three layer piece-almond paste: chocolate paste in center: Good.
Assorted bon bons:
Colors: Good.
Gloss: Poor.
Jackets: Good.
Centers: Coconut, chocolate paste, vanilla caramel: Good.
Assortment: Good.
Remarks: Well made candy. A few pieces need checking up. Box is trifle large for a one pound assortment.

(The following samples were submitted for analysis #4706)

Code 2I51
No. 2 Emser
Small Round Panned Salted Pills
Price—20c each

Box: Folding box, printed in red, gold and black.
Pills: Hard candy panned drops.
Panning: Very good.
Texture: Good.
Flavor: Salt.
Remarks: We doubt if a piece of this kind would sell in the U. S. A.

Code 2J51
No. 95—Milk Chocolate Nut Bar
Price—60c each

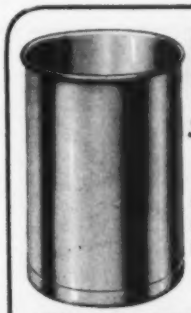
Wrapper: Outside paper wrapper printed in red, yellow and white. Inside glassine wrapper.
Bar:
Chocolate: Good.
Molding: Good.
Taste: Good.
Remarks: A good eating chocolate nut bar.

Code 2K51
No. 412
Creams Covered with Nonpareils

Box: Folding box printed in brown and white. Cellulose wrapper.
Creams:
Appearance: Poor.
Texture: Good.
Taste: Poor.
Remarks: A very cheaply made piece. We doubt this package would sell in the U. S. A.

Code 2L51
No. 708 Jellies
Price—$1.25

Box: Folding box, white printed in red and black, imprint of jellies in color. Cellulose wrapper.
Jellies:
Color: Good.
Texture: Good.
Flavor: Poor.
Remarks: Piece is not a jelly. A very hard, cheaply made, gum or gelatine drop. We doubt if this package would sell in the U. S. A.



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STAINLESS STEEL
DRUMS
MODEL 30--30 GAL.
MODEL 55--55 GAL.
(Covers available)
ECONOMY EQUIPMENT
RUGGEDLY CONSTRUCTED FOR LIFE TIME WEAR.
FULLY APPROVED BY HEALTH AUTHORITIES.
Manufactured by
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Corrigan bulk dry sugar handling and storage systems convey sugar from unloading point to storage and from storage to production.

Improve production facilities
Lower operation costs

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Consumers prefer

that extra "plus" of dextrose food-energy sugar

make your candies with

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PURITOSE BRAND CORN SYRUP

GLOBE BRAND CORN SYRUP

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Harold Crooks, Director

Analysis of chocolate coatings and raw ingredients.

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- Candy Clinic
- Candy Packaging
- Candy Equipment Preview
- Technical Literature Digest
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- Book Reviews

And many other features

9 S. Clinton — CHICAGO 6, ILL.

Code 2M51
No. 808—Caramels & Nut Paste

(Sample in round tin box)
Piece is a hard candy filled plastic piece.

Candy:
Color: Good.
Gloss: Good.
Texture: Good.
Center: Good.
Taste: Good.

Remarks: This is a good eating piece, similar to a piece that is made in the U. S. A. in peanut shape about 80c the pound.

Code 2N51
No. 902
Raspberry Sugared Jellies
Price—75c

Box: Folding box, white printed in gold and green. Imprint of raspberries in colors. Cellulose wrapper.

Jellies:
Color: Good.
Sugaring: Good.
Texture: Partly grained.
Flavor: Very poor.

Remarks: Suggest a better grade of flavor be used and formula be checked as jellies are not good eating when grained.

Code 2Q51
No. 42
Chocolate Coated Chocolate Paste Bar

Wrapper: Tin foil printed in red and gold.

Bar:
Coating: Fair.
Center:
Color: Good.
Texture: Good.
Taste: Good.

Remarks: There are similar bars in the U. S. A. which are larger that sell for 5c.

Code 2P51
Panned Almond Shaped Creams

Cellulose bag:

Almonds:
Colors: Good.
Panning. Good.
Finish: Good.
Jacket: Good.

Center:
Color: Good.
Texture: Good.
Flavor: Poor.

Remarks: A good looking panned piece, but deceiving to the consumers as they think this piece was a Jordan Almond.

LETTERS to MC editors

Caramel Coated Popcorn

Will you please send me a formula for caramel coated popcorn?
California

REPLY: You may like to try the following suggestions for making Caramel Coated Popcorn:

Cook up a "Stock Syrup" in advance and store in a drum. When corn is about ready, take a measured quantity of this "Stock Syrup" and add to every gallon of the syrup, 2 oz. vegetable fat, cook to 300 F., remove from fire, stir in 4 pecks of popped corn. Dump on slab and shape as desired.

The Stock Syrup is made as follows:

16 lbs. corn syrup
(This is cooked to the boiling point.)
48 lbs. granulated sugar
2 gals. water
salt to taste
2 qts. molasses

We have no idea of the quantity you wish to produce. It may be you will wish to have a fire-mixer for the caramel cooking. You may wish to make a better product, more on the true caramel side, using some milk. If so, we would recommend:

20 lbs. corn syrup
20 lbs. granulated sugar
2 gals. evaporated milk
3 lbs. vegetable fat
salt to taste

Cook to degree necessary to give non-sticky product.

You can store the popped corn in advance of the caramel but we would not advise keeping the popped corn over night. A sifter would be desirable to have in the line to remove unpopped kernels of corn.

Coffee Candies, Almond Candies

We are sending you 2 samples of candies, 1. Coffee Candies and 2. Almond Candies. We would appreciate it if you would let us know the ingredients and formula for each.
New York

REPLY: Coffee Candies;

40 lbs. sugar
10 lbs. corn syrup
5 quarts water
1 quart condensed milk

Cook to 280°F. Pour on cold slab. Add one pound of good coffee paste, mix well, cool batch, and spin out desired size.

Almond Candies;

40 lbs. sugar
10 lbs. corn syrup
5 qts. water

Cook to 300°F. before turning out on slab. Add two pounds of butter, bring to a boil, pour on slab. Cool same as any hard candy jacket.

Center:

6 lbs. chopped almonds
10 lbs. sugar
4 lbs. corn syrup

Toasted Coconut Cut Marshmallows

Will you please advise me what formula you would recommend for Toasted Coconut Cut Marshmallows.
New Jersey

REPLY: We suggest the following formula for Toasted Coconut Cut Marshmallows:

60 lbs. sugar
20 lbs. corn sugar (dextrose)
1 gal. water

Cook to 236-238°F. Add 3½ lbs. quick set gelatin soaked for at least ½ hour in 2½ gal. cold water. Stir until gelatin is dissolved. Add 80 lbs. corn syrup.

Florida's Most Beautiful Candy Factory — Sylvan Shores, Mt. Dora, Florida

Our Specialty
CRUSHED ORANGE CENTERS
cut and ready for dipping

Made as only the originator can make them, from fully tree-ripened oranges with only the seeds removed.
The most delicious "Orange" center it is possible to make. No. artificial flavor or color. Not a jelly.
Size ¾" x ¾" x ½" or ½" x ½" x 1¼". Packed five pound boxes, ten to a case.
Sample gladly sent on request on your letterhead. Former customers especially solicited.

Charles C. Walker's Pink Cottage Candies
Sylvan Shores, Mt. Dora, Florida

SPEAS
APPLE PRODUCTS
the Standard of Quality
for sixty years

NUTRL-JEL
for preserves, jams, jellies, marmalades

CONFECTO-JEL
for jellied candies

Powdered *Apple* Pectin
for CONFECTIONERS

CONCENTRATED APPLE JUICE

Plants in Apple Regions From the Atlantic to the Pacific
SPEAS COMPANY, General Offices, Kansas City 1, Missouri

Beat until batch is light and fluffy, but still retains enough heat to allow the MM to spread easily.

Add 8 oz. imitation vanilla flavor. Pour onto heavy kraft paper lined trays. Sieve toasted coconut on top of MM. Let set overnight. Cut with wet roller knife. Remove paper by wetting. Break apart and roll in toasted coconut. Pack in wax glassine paper lined boxes.

Another formula you may wish to try is:

Gelatin (200 bloom)	3 lbs.
Water	25 lbs.
White sugar	30 lbs.
Invert Sugar	20 lbs.
Corn Syrup	50 lbs.
Flavor	

Mix gelatin with half of the water and let stand for at least 15 minutes. Cook sugar and remaining water to about 160°F. Turn off heat. Add soaked gelatin and mix until it is dissolved. Then add invert sugar and corn syrup and beat to volume, add flavor. Spread batch on heavy wrapping paper and sprinkle the marshmallow surface with coconut. When the marshmallow has set, remove the paper by lightly wetting with water. Then sprinkle again with cocount. Cut to size. After pieces are cut, roll well in coconut so that the surface is dry before packing.

In the June 1950 *issue of* THE MANUFACTURING CONFECTIONER, *in the article entitled "Sweetness as a Factor in Flavor Control" the statement is made, "Moisture content of candy estimated at* 1 *per cent"* (*p.* 43).

We are extremely interested in the method of determination since we can never get lower than 2½ *per cent or* 3 *per cent either by calculation or by actual analysis.*

—*Pennsylvania*

REPLY: In the article to which you refer, "Sweetness as a Factor in Flavor Control," the purpose of the table was two-fold: (1) to show the lowering of cost by the use of corn syrup and thereby have an argument for the use of an increased amount of flavor, and (2) to show the change in sweetness in candies produced from formulae by actually reducing the amount of cane sugar. For purposes of calculation, the moisture content was assumed to be 1 per cent. Perhaps, it would have been more satisfactory to have used a higher figure. But during the war, government specifications for candy (hard) were rather stringent. I believe 1 per cent moisture was the maximum allowed.

It is possible to produce hard candies which are very dry, below 1 per cent in moisture, using either continuous or simplex cookers. The writer has tested candies made according to B and D formula in the article mentioned.

The acetone method as described by Jordan & Langwill on Page 5 of *Confectionery Analysis and Composition* was used with satisfactory results. Samples of the hard candy were taken before the addition of flavor for analysis. Finished hard candy when tested necessitated a correction for the amount of flavor added, but when this correction was made, was found to be satisfactory.

Had a figure of 2.5 per cent or 3 per cent been used in the article, some of the manufacturers of "rolls" or other packaged drops would have really taken us to task.

—W.H.C.

9,000
Volume Buyers
Read
CANDY
MERCHANDISING
For Advertising Rates, write
CANDY MERCHANDISING
9 S. Clinton St., Chicago 6, Ill.

Confectioners' Briefs

• **The Shotwell Mfg. Co.** of Chicago has announced the appointment of Tom O'Rourke as General Sales Manager. Mr. O'Rourke is well known throughout the industry. He was with Beechnut Packing Company for 18 years and more recently with Lamont Corliss Company.

• **George Shamlian,** president of Peter Paul, Inc. announced a bonus payment to all personnel who have been with the company for six months or longer. Those associated with the company for at least one year were presented with a full week's additional pay while those whose employment was for a minimum of six months but less than a year, were presented with one-half week's pay.

• **C. Ralph Yarnall,** formerly vice-president of Peter Paul, Inc. and General Manager of the Philadelphia plant has entered the brokerage field catering to the confectionery and baking industries. Mr. Yarnall joined Peter Paul in 1924. He was elected a director of the company in 1936 and remains on the Board of Directors of the Company.

• **George Granger** has been appointed assistant merchandising manager of the Chase Candy Company. He will serve as secretary of the Chase Diamond Jubilee Club.

• **Sylvan Sweets Company** have announced the appointment of two additional brokers: J. H. O'Rourke, Sunland, California, for southern California; and Rufus Gillett, Wilkes-Barre, Penn. for West Virginia and Maryland.

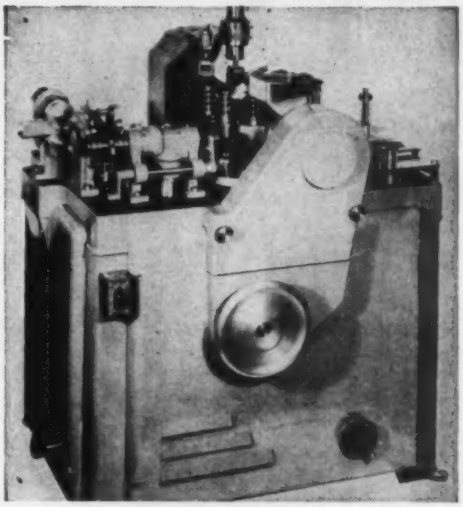
• **Percy A. Staples,** president of Hershey Chocolate Corporation has been elected a director of Central Violeta Sugar Company and also a director of the Cuban Atlantic Sugar Company.

• **See's Candy Shops, Inc.,** Los Angeles, distributed the company's 15th consecutive year-end bonus to their 800 employees.

• **Ponce Candy Co.,** San Juan, has installed $125,000 worth of machinery for making chewing gum it has been announced by the Economic Development Administration. The Ford Gum & Machine Co., reached an agreement through the EDA with the candy company and will produce annually $700,000 chewing gum.

• **Griggs, Cooper & Company,** St. Paul, have announced the recent appointment of the following brokers to represent them: Charles W. Starritt, Chicago; Spearbraker Candy Brokerage Co., Los Angeles; James R. Anderson, Oklahoma City, Gumins-Lukitsch, Inc., Buffalo; Arthur V. Thein, Clayton, Missouri.

LATINI *Continuous*
DIE POP MACHINE



- high speed production
- controlled weight & size of pops
- interchangeable dies
- guaranteed performance
- economical operation

CHOCOLATE SPRAYING CO., INC.
2035-39 W. GRAND CHICAGO 12, ILL.
Rep. John Sheffman, 152 W. 42nd St., New York 18, N. Y.

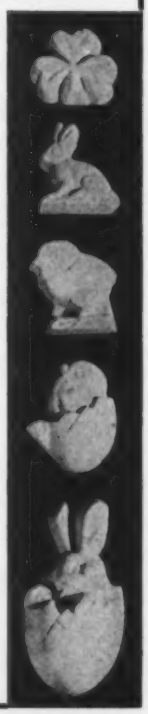
Simplify Operations and Insure Greater Perfection
in your
EASTER CANDIES
with
VOORHEES
RUBBER
CANDY MOLDS

Made of the purest live rubber these molds are odorless and insure freedom from dust. They control moisture, and yield a better finished product.

Voorhees Molds are manufactured in all standard patterns or your own patterns and brand markings will be made to your order.

If your jobber cannot supply you, write for Catalog M2

VOORHEES
RUBBER MFG. CO., Inc.
151 East 50th St., New York 22, N.Y.



MERCKENS

Makers of Fine Chocolate

MERCKENS CHOCOLATE COMPANY, INC.
BUFFALO, NEW YORK
BRANCHES AND WAREHOUSE STOCKS IN
BOSTON, NEW YORK, CHICAGO, LOS ANGELES, OAKLAND, SALT LAKE CITY, SEATTLE

top quality products from the laboratories of *George Lueders*

citrus oils

(for Hard Candy and Fondant Specialties)

- LEMON EXPRESSED U.S.P. XIV
- LIME EXPRESSED
- ORANGE EXPRESSED U.S.A. XIV

flavors . . .

- PINEAPPLE 555
- RASPBERRY 425
- STRAWBERRY FRAGARIA

Write for Sample

Established Since 1885

George Lueders & Co.

427 Washington St. New York 13, N. Y.
Chicago • San Francisco • Montreal • Philadelphia
Toronto • Winnipeg • Wisconsin

• **Ed. A. Dowling,** formerly general manager of the Dilling Company, Indianapolis, has become a partner in the firm of Thomson & McKinnon of Indianapolis. Mr. Dowling has been traveling extensively, having visited 67 countries the past few years. Thomson & McKinnon are security brokers and also deal in commodity insurance.

• **The Heidelberger Confectionery Company,** Philadelphia, has appointed John J. Urban their Eastern Pennsylvania representative. Mr. Urban has been associated with the company for the past 4½ years in cost accounting and inventory control work.

• **Mars, Inc.,** Chicago, have received an accident prevention award from Liberty Mutual Insurance Company as a result of keeping lost time accidents 75% below the average of their industry. A blue and white flag, symbolic of the award, was presented to vice president G. B. Hurley.

• **John H. Bier,** who was associated with National Candy Co., St. Louis, for many years before moving to California in 1945 died recently. He was author of "Confectionery Manufacture Maintenance" published by The Manufacturing Confectioner, which is out of print.

• **W. Leslie Doten, Jr.,** Assistant Treasurer of the James O. Welch Company, Cambridge, and Clive S. Willey, Secretary and Assistant Treasurer of the Dagett Chocolate Company, Cambridge, have been elected to membership in the Controllers Institute, a non-profit organization of controllers and finance officers from all lines of business. The total membership exceeds 3,500.

Conventions -- Meetings

Feb. 11-13—Nat'l Assn. of Variety stores, Muny Auditorium, Atlanta.

Feb. 18—Nat'l Food Brokers Assn., Chicago.

March 1-2—Western Manufacturers annual meeting. Fairmont Hotel, San Francisco.

March 27-29—Dairy Manufacturers' Conference, University of Wisconsin, College of Agriculture, Madison, Wis.

April 3-4—Point of Purchase Advertising Institute, Waldorf-Astoria, New York.

April 16—Packaging Machinery Manufacturers Institute semi-annual meeting, Hotel Dennis, Atlantic City.

April 17-20, 1951—Packaging Conference, American Management Association, Auditorium, Atlantic City, N. J.

April 26-27—Fifth Annual Production Conference, The Pennsylvania Manufacturing Confectioners' Assn. Lehigh University, Lehigh, Penna.

April 30-May 4—American Material Handling Society, International Amphitheatre, Chicago.

May 1-3—American Oil Chemists' Society, Hotel Roosevelt, New Orleans

June 3-6—National Confectioners' Association convention, Stevens Hotel, Chicago.

June 3-6—Associated Retail Confectioners of the U. S., Drake Hotel, Chicago.

June 7-9—National Candy Wholesalers Association Convention, Palmer House, Chicago.

June 17—Institute of Food Technologists Meeting, New York City.

Oct. 8-10—American Oil Chemists Society, Edgewater Beach Hotel, Chicago.

Nov. 12-15—National Automatic Merchandising Assn., Public Auditorium, Cleveland.

The Brand to insure a Howling Success!

Wilbur Chocolate Coatings

Give your candies that "Buy another" taste

WILBUR SUCHARD CHOCOLATE COMPANY, INC. • LITITZ, PA.

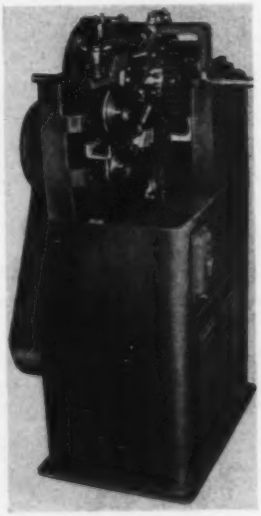
News of Associations

• **Retail Confectioners' Association of Philadelphia, Inc.,** nominated the following members for 1951 officers: as president, Frank J. Zealen; as 1st vice-president, Ira Minter; as 2nd vice-president, John A. Krouse; as financial secretary, James A. Levan; as corresponding secretary, Joseph Steppacher; as treasurer, Harry L. Young.

• **National Premium Buyers Exposition** will be held at the Stevens Hotel in Chicago, April 2 to 5th. National Safety Council has named Charles F. Alexander as manager of the Industrial Department.

• **American Management Association** has designated April 16th as "packaging week", when the National Packaging Exposition and AMA Packaging Conference will be held in Atlantic City. A number of industry groups are planning special meetings during the week.

NEW! PEERLESS CONTINUOUS PLASTIC MACHINE



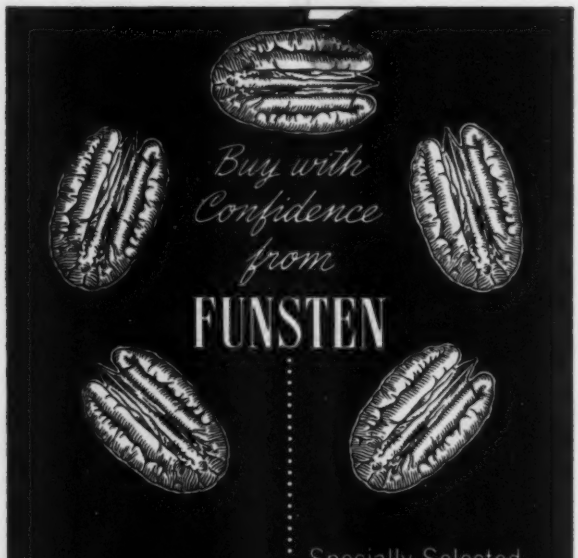
Completely Re-designed and Re-engineered

- **UNLIMITED PRODUCTION CAPACITY**
  It will produce excellent plastic or hard candies as fast as the machine can be fed.
- **New variable speed motor.**
- **New strip-proof rollers need only two adjustments for continuous production.**
- **Die can be removed, cleaned, replaced in less than 2 minutes.**

Machine and Dies Unconditionally Guaranteed

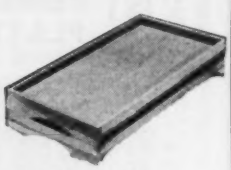
For complete information, write to

Peerless Confectionery Equipment Co.
158 GREENE ST. NEW YORK 12, N. Y.


Buy with Confidence from
FUNSTEN
Specially Selected for Flavor and Size
PECANS of Quality
FOR OVER 50 YEARS
R.E. Funsten Co. 1515 Delmar, St. Louis 3, Mo.

Starch Trays

- *At their best!*
- *At lowest prices!*



Masonite and Solid Wood Tongue and Grooved Glued Bottoms Nailed—Cement Coated Drive Screws—Lock Corner and Waterproof Glued Hard and Soft Woods

also: Dipping Boards—Starch Tray Dollies
Pan Room Trays—Wire Bottom Trays
Mould Boards
And All Other Affiliated Wood Products

Ask for FREE Sample—and quotation

BAYWOOD MFG. CO., INC.
11-13 Sterling Pl. Brooklyn 17, N.Y. NE 8-9832

American Management Association will sponsor its 20th National Packaging Exposition April 17-20 at the Auditorium in Atlantic City. Machines, equipment and services used in packaging, packing and shipping will be on display.

Northwest Candy Club, Seattle, elected O. B. Dance president. Other officers are R. W. Graham, vice president; William Hume, secretary; P. F. Reimer, treasurer and Howard J. Snow, comptroller.

Joint Advertising Raises Sales in Buffalo

Within the past two years, the membership of Buffalo and Western New York Confectioner's Association has grown from thirty-five members to 128. These members also spent $4000 during 1950 for joint holiday advertising. These are two factors which spelled out 1950 as a year of the greatest progress in making Buffalo and vicinity candy conscious.

Growth in 1950 really resulted from Sweetest Day Campaigns of 1947, 1948 and 1949, for they greatly increased candy sales throughout this territory. Alert retail confectioners and those in associated trades saw the wisdom of climbing on the bandwagon, and the group expanded. The organization now meets monthly and works towards more and more co-operation among candymen, and more and more business.

President Clarence H. Drescher, a year ago suggested a program of co-operative trade advertising. This met with enthusiastic approval. The project began with St. Valentine's Day. Window posters, proclaiming "Give Good Candy," were used throughout the city and on buses and street cars. Two weeks before the holiday, time for announcements was purchased on radio stations WEBR and WBNY.

The same general program of promotion was followed for Easter, Mother's Day, Thanksgiving, and Christmas. Window strips only, were used for Father's Day and window posters for Hallowe'en. Greater attention was given to the promotion of Sweetest Day because the leaders in the business are trying to make it a more widely recognized holiday, not only to the general public but among other tradesmen and businesses.

A "Miss Sweetest Day" queen contest was run and prizes were awarded. The winner received a bond,

(*Please turn to page 71*)

offee cost in half . . . users like taste better!

coffee forte is a mellow blend of select coffees, fortified with other natural extractives which build up such a potent coffee flavor that you use less than half as much as pure coffee concentrate. Per pound, it costs only 5 percent more. Those who try it stay by it. Demand details quick!

AMERICAN FOOD LABORATORIES, Inc., 860 Atlantic Ave., Brooklyn 17, N. Y.

Supply Field News

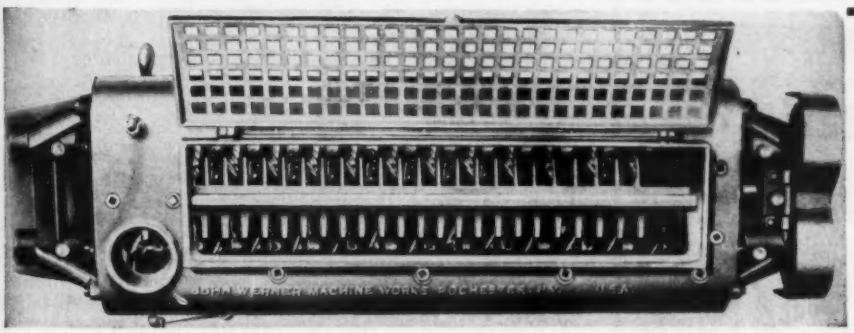
• **A. E. Staley Manufacturing Company** Decatur, Ill. has added James Edward Tipton as a research junior chemist in the technical department.

• **Buhler Brothers, Inc.,** moves to a new and larger plant at 2121 State Highway No. 4, Fort Lee, New Jersey, on February 1st. The move was necessitated to accommodate the increased sales expansion. The company has been in existence in Europe since 1860, with headquarters and factories in Switzerland, and with New York Headquarters for the United States and Canada since 1935.

• **Fritzsche Brothers,** Inc., New York, held their annual meeting of executives and sales personnel recently. Motion pictures, stereoptican slides and mounted displays served to give added impact to the meeting through visual presentation. President F. H. Leonhardt gave a brief address of welcome followed by talks on sales, management and administration by vice president John H. Montgomery, treasurer John L. Cassullo, assistant secretary D. A. Neary and vice president Fred Leonhardt, Jr. Dr. E. H. Hamann in charge of flavor research, gave an informative discussion on numerous flavoring problems. A resume of the market situation was given by vice president H. P. Wesemann. The final event brought all employees together for the annual Fritzsche Family Dinner-Dance.

Referred to by one of their fellow representatives as "the four jaded old men of Fritzsche Brothers", Representatives "Pete" Niles, Warren Godfrey, Franc Barada and Jim Shumaker seem to be taking the matter in their stride. They are pictured at the recent annual sales convention of the well known New York essential oil firm held in The Hotel New Yorker.

• **Lamont, Corliss & Company,** New York has changed its name to Nestle's Chocolate Company, Inc. it was announced recently by Clive C. Day, President. "This change in name," said Mr. Day, "identifies the company definitely with the quality Chocolate Products which it has distributed for years. The company formerly represented a number of different manufacturers as sales agents. Its activities are now confined exclusively to the distribution of Nestle's Chocolate Products and it



Inside view 50" Snow Flake Cream Beater, with baffles, open top and water jacket.

"When your formula" includes corn syrup!

For smooth, white fondant that is uniformly tender

The Snow Flake Cream Beater is a MUST

The Beaters running between diagonal baffle plates assimilate all ingredients, aerating and whitening the Fondant.

Years of experience have proved and verified our claim that the Snow Flake Cream Beater is engineered to handle fondant with corn syrup better and faster, with the desired result at its maximum.

Make your next installation a Peerless Syrup Cooler and Snow Flake Cream Beater.

Peerless Fondant Coolers:
Werner Rapid Cooker & Cooler for syrups, blends etc.
Peerless Chocolate Kettles
Fondant Re-Melters:
Marsh-Mallow Beaters, Single and Double Action
Duplex Fondant Beater and Cooler, open style for Laboratory and retail use
Little Wonder Chocolate Kettles, for Laboratory and retail use
Little Wonder Sucker Machine, operated, for Laboratory and Retail use
Depositors:
Automatic Depositors and Printers
The Boardless Automatic Depositor, printer and cleaner, without the use of starch trays

JOHN WERNER & SONS, INC.
713-729 Lake Avenue **Rochester 13, N. Y.**

ANNOUNCEMENT

We may not be able to build enough Fondant Machines to fill all orders. But we will continue to build the Best Fondant Machine on the market.

Producing the finest quality Fondant efficiently & economically.

Write Now for Full Information!

CONFECTION MACHINE SALES CO.
37 W. Van Buren Chicago 5, Ill.

FOR
CHOCOLATE
COATINGS • LIQUORS • COCOAS
it's
BLUMENTHAL BROS.
PHILADELPHIA, PA.
B·B

was felt that the company should be more closely identified by name with the products themselves.

"The manufacture of Nestle's Chocolate Products will continue in the large Fulton, New York plant where a substantial addition of production facilities will be completed about the first of the year."

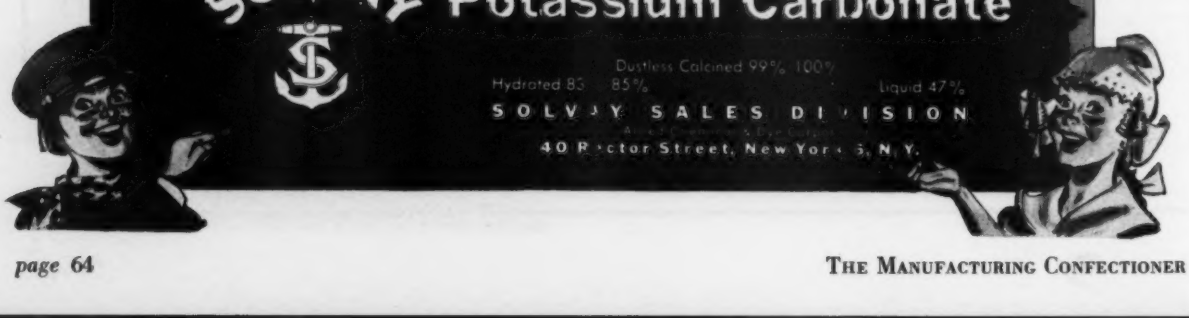
Mr. Day also pointed out that the Nestle's Chocolate Company is a member of the famous world-wide Nestle organization with 125 factories located in all the principal countries of the world. He said "there will be no change in the company's sales and advertising policies or marketing plans for the branded products.

Peter M. Johnson, well-known confectionery man retiring.

• **Peter M. Johnson,** 76, sales service man to the confectionery and biscuit industries for the Durkee Famous Foods Division of the Glidden Company, retires this month after 23 years of service.

• **Dr. O. J. Kahlenberg,** former director of research for the National Egg Products Association, has been appointed director of research and product development of the F. M. Stamper Company, Moberly, Mo. James M. Gorman was recently appointed to fill the vacancy created by Dr. Kahlenberg's resignation at National Egg Products Association.

• **Robert E. Burton,** Santa Cruz, Calif. reporting on 20 months of work at the agricultural demonstration station on Ponape Island, in the Eastern Carolinas, said experimental plantings of cacao have done remarkably well there. These islands in the Pacific have been pointed out as a possible new source of cacao. Cocoa countries estimate their production of the cocoa bean at 1,687 million pounds in the growing year ending next April 30th. Last season's crop was 1% bigger, but the 1935-40 average was 7% less.


For DUTCH PROCESS Cocoa and Chocolate...
SOLVAY Potassium Carbonate
Dustless Calcined 99% 100%
Hydrated 83 85%
Liquid 47%
SOLVAY SALES DIVISION
40 Rector Street, New York 5, N. Y.

Mr. Wm. Lakritz

Dr. V. G. Fourman

• **William Lakritz,** president of Florasynth Laboratories, Inc., and Dr. Victor G. Fourman, president of Syntomatic Corporation, made a joint announcement of the affiliation of Syntomatic Corp. with Florasynth Laboratories. The continuous increase of sales activity of the Flavor Division of Syntomatic neccesitated expansion and Florasynth Laboratories have extensive facilities for production, research and distribution. The joint affiliation will not affect the already established personnel setup, it is announced. In the statement it was further indicated that Dr. Fourman would direct the Perfume research for both companies. All production and flavor research will be under the supervision of David E. Lakritz, chief chemist of Florasynth. Irving Bennett will continue as vice president and director of sales for Syntomatic Company.

Spisoresin Promotional Kit designed by Dodge & Olcott, Inc. Spisoresins are the newest advance in the art of flavoring and science of seasoning.

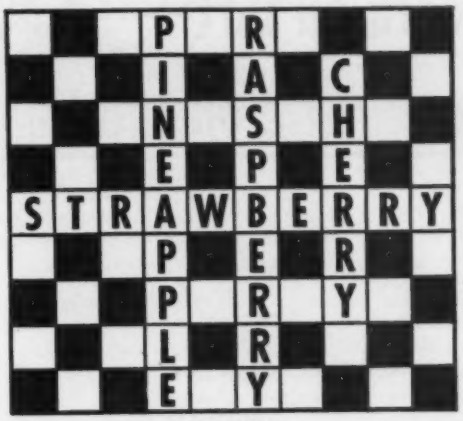
• **Harry L. Griffin,** formerly general manager of manufacturing of The Nestle's Company, Inc., and Earle H. Selby, formerly vice-president of sales of American Home Foods, Inc., have established the Management Consulting firm of Griffin & Selby in New York.

• **James B. Long & Company,** Chicago, announces the appointment of Harry G. Wischmann as their eastern sales manager. Mr. Wischmann has been associated with the confectionery field for the past forty years.

• **John E. McKeen,** 47-year-old president of Chas. Pfizer & Co., has been named chairman of the board of the company, filling the vacancy created by the death of John L. Smith, the late chairman of the board. The board requested that Mr. McKeen also retain his post as company president.

• **Donald D. Pascal** has been named vice president, in charge of sales of National Starch Products, Inc. Mr. Pascal has been vice president of the company, in charge of eastern and Pacific coast sales divisions. He has been connected with the company since 1929.

... Puzzled ?? ...



Imitation

TRUTASTE FLAVORS

ARE THE SOLUTION

Write for information

NEUMANN·BUSLEE & WOLFE INC.

226 W. Huron St. Chicago 10, Ill.

Our Pledge in '51
. . . the continued use of our research and production facilities for the welfare of the Confectionery Industry.
PENICK & FORD LTD., INC.
420 Lexington Avenue, New York 17, N. Y.
Factory . . . Cedar Rapids, Iowa

This Cleaner's Death on Dirt— But Gentle on the Hands

NO MORE worries about either dirt or damage to the hands when you use Oakite Composition No. 65 for all your hand-cleaning operations.

Powerful detergent cleans quickly, thoroughly . . . rinses freely . . . leaves surfaces sparkling. And it's inhibited against drying or irritating the skin, even where the operator's hands are in contact with the solution for long periods of time.

FREE details on request. Write Oakite Products, Inc., 36C Thames Street, New York 6, N. Y.

SPECIALIZED INDUSTRIAL CLEANING

OAKITE

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• **Andre Paper Box Company,** San Francisco, has just completed a new half-million dollar factory at San Leandro, Calif. Ninety percent of its work is making folding paper boxes from laminated paperboard. They have a branch factory in Chicago.

• **Allegheny Ludlum Steel Corporation,** Pittsburgh, elected Edward J. Hanley as president and Clark W. King as executive vice president.

• **Polak & Schwarz, Inc.,** New York, announces the appointment of Frank J. Micek to the staff of its Chicago office. Mr. Micek will act in the capacity of technical sales representative. He is a graduate chemist of the University of Illinois and the Illinois Institute of Technology. During the past five years he has been a chief research chemist developing flavors and compounds in several food fields.

• **Corn Industries Research Foundation** have made administrative changes aimed at strengthening its operations, through the expansion of its research program and the election of Morris Sayre, president, A. E. Staley, Jr., vice-president, Floyd J. Hosking, executive vice-president, and Howard A. Prentice, vice-president-at-large. Norman F. Kennedy will continue as director of research, Pendleton Dudley as Treasurer and General Consultant, and Howard T. Walden II as editorial director.

New fundamental research projects in the field of starch chemistry have been authorized to supplement the number of projects in this field already under development in departments of Universities and Government laboratories.

The Foundation's membership includes eleven manufacturers of starch, syrups and other derivatives of American corn. Much of the industry's output, particularly of industrial starch, is used in armament production.

• **P. R. Dreyer, Inc.,** New York have announced that James V. Demarest has severed his connections with the company as of January first of this year.

• **H. E. Moorhead** of Florasynth Laboratories (Canada Ltd.) won the 1950 Bristol-Myers Eastern Division Gold Tournament.

• **Dr. Henry B. Smith, Jr.** has been appointed director of General Foods' engineering research laboratory at Hoboken.

• **U. S. Department of Agriculture** announced sugar quotas for 1951. These quotas total 8 million short tons, raw value. According to Lamborn & Company, Inc., preliminary estimates of the new crop of world sugars is 41,080,000 tons as compared with 38,296,000 tons.

• **Roy W. Lundberg,** formerly merchandising manager of Milprint's Litho division, has been appointed advertising manager. He has a wide background in candy and packaged goods advertising, newspaper merchandising and graphic arts experience.

• **Clinton Foods** names L. D. Buhrer as eastern division sales manager. This is the latest in a series of moves to broaden and decentralize the sales organization and maintain closer contact with field men and customers, Carl Whiteman, vice president in charge of sales and advertising, said. Mr. Buhrer, who joined the organization in 1947, will make his headquarters in New York City.

Latest Figures For Wholesalers Released

Sales of confectionery wholesalers in 1948 were almost three times the dollar volume recorded in the 1939 Census of Business, according to a report released today by the Bureau of the Census, U. S. Department of Commerce.

Total dollar volume reported by confectionery distributors amounted to $377 million in 1948, an average of $182,000 per house. Corresponding figures for 1939, when the recent previous Census was taken, were $133 million and $63,000 respectively. Geographic divisions showing the largest sales gains over 1939 were the Mountain, Pacific, East South Central and South Atlantic in the order named. Generally speaking, the Southern and Western States reported larger increases than did those in East and North.

In 1948, there were 9,609 paid employees in this trade, an increase of 36 percent over 1939. These employees received salaries and wages totalling $24.4 million during the year, compared with $8.0 million in 1939. The 1948 pay roll of confectionery wholesalers represented 204 percent increase over 1939, while sales were up 184 percent.

Operating expenses, including pay roll but not withdrawals for compensation of proprietor-owners nor cost of merchandise, amounted to 11.9 percent of sales, a drop from the 13.2 registered in 1939 and slightly under the 12.1 in 1935. Stated differently, total operating expenses of confectionery wholesalers, when related to sales, decreased from 13.2 percent in 1939 to 11.9 percent in 1948, a period during which pay roll rose from 6.1 percent to 6.5 percent of sales.

At the end of 1948, the value of stocks in the hands of wholesale confectionery distributors totalled $25 million. This amounted to 6.7 percent of sales, a slight decline from the 1939 ratio of 7.1.

This release is one of a series on Wholesale Trade showing basic data on establishments, sales, expenses, pay roll, personnel, and stocks for States, geographic divisions, and the United States. Data for cities, metropolitan areas, and States for Wholesale, Retail, and selected Service Trades are being issued in a series of 1948 Census of Business Area Bulletins which may be ordered from the Superintendent of Documents, Government Printing Office, Washington, D. C. by requesting "Announcement of 1948 Census of Business Area Bulletins," the official order blank. Additional reports now in

(Please turn to page 71)

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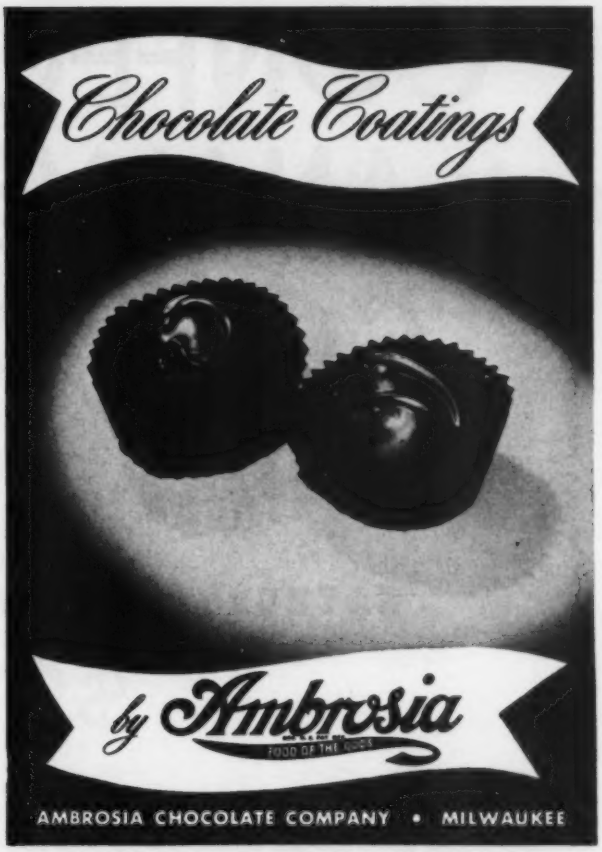

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CONFECTIONERY ANALYSIS and COMPOSITION

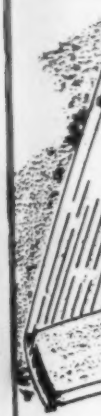
By

STROUD JORDAN, M.S., Ph.D.

and

KATHERYN E. LANGWILL, M.S., Ph.D.

$3.50



The first two volumes of "Confectionery Studies" by Dr. Jordan, have acquainted the confectioner with everyday problems and with standards in effect at the date of publication. A practical and technical evaluation of chocolate products then followed entitled "Chocolate Evaluation". These three books were willingly received by the industry as valuable additions to the technical literature available.

This book, the fourth in the series, is being published by *The Manufacturing Confectioner*. Confectionery studies have been continued and this volume concerns itself, first with applicable data that cover the composition of basic raw materials as well as that of the finished confections in which they have been employed.

In assembling this volume reference is made to applicable methods. Where satisfactory methods of analysis are of general knowledge they are incorporated by reference. All specially developed methods and procedures are incorporated in detail.

Where reconstruction of formulas from analytical data is considered, we are dealing with a relatively unexplored field. Many basic assumptions have been made before actual formula reconstruction has taken place. The second part of this volume is used to consider the several confection groupings into which most confection types generally fall and full discussion of each follows. See Chapter Headings below.

Moisture (Ch. 1)
Ash (Mineral Matter—Ch. 2)
Sugars (Ch. 3)
Starches (Ch. 4)
Proteins (Ch. 5)
Fats (Ch. 6)
Colloidal Materials (Ch. 7)
Nuts and Fruits (Ch. 8)
Acids (Ch. 9)
Incidental Materials (Ch. 10)
Reconstructed Formulas (Ch. 11)
Hard Candy (Ch. 12)
Sugar Cream (Fondant Ch. 13)
Fudge (Ch. 14)
Caramels and Toffees (Ch. 15)
Marshmallow (Hard & Soft Ch. 16)
Nougat (Ch. 17)
Gums and Jellies (Ch. 18)
Coated Candies (Ch. 19)
Appendix

BOOK SECTION

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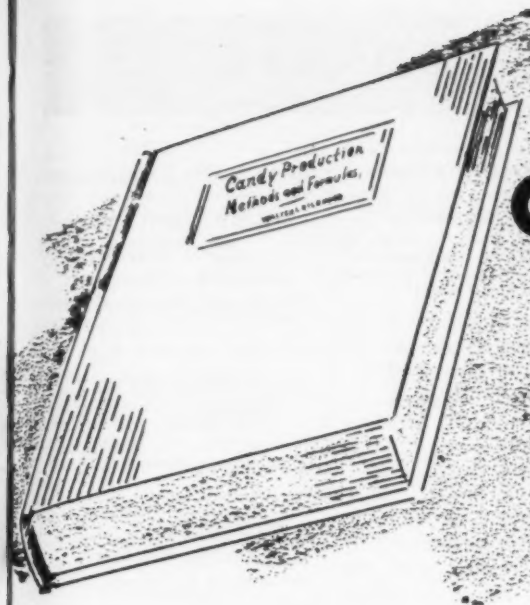

Candy Production Methods and Formulas

a big 640-page book of candy "know how"

CANDY PRODUCTION: METHODS AND FORMULAS, is a big, 640-page, extra-helpful book designed to give practical "know-how" answers to problems of candy manufacture. Walter L. Richmond, the author, is superintendent for Garrott Candy Company and for Jane Garrott Candies, Inc., of St. Paul, Minn.

In CANDY PRODUCTION: METHODS AND FORMULAS, Mr. Richmond describes fully the three basic operations for good candy manufacture: (1) Ingredients and Cooking Actions, (2) Mixing, Casting, Coating, Etc., (3) Trouble Shooting. Mr. Richmond tells *both* the reasons and the methods of operation. In addition, he provides carefully selected formulas for both the wholesale and the retail trade.

Whether you have a large plant or a small one, CANDY PRODUCTION: METHODS AND FORMULAS will prove a valuable asset to your firm. Mr. Richmond's book has 30 helpful chapters, as shown in the accompanying contents table. Its 640 pages contain 500 candy formulas and detailed production information on candies. For quick, convenient reference, a numbered list of the book's 500 formulas—grouped also under 32 main candy classifications—is provided. A comprehensive index and large diagrams showing both how to decorate Easter eggs and how to insert fruit and nuts in the centers are still additional features. Designed specifically as a production man's text, Mr. Richmond's helpful book also provides generous space alongside the formulas for notes during actual production in the candy plant.

CANDY PRODUCTION: METHODS AND FORMULAS is now ready for prompt shipment. Price is $10. Use the handy coupon below.

CONTENTS

Flavors and Colors (Ch. 1)
Cream Candies (Ch. 2)
Chocolate Covered Cast Creams (Ch. 3)
Cordial Fruit Creams (Ch. 4)
Direct Remelt Creams (Ch. 5)
Hand Rolled Creams (Ch. 6)
Plain Creams, Glazed Butter Goods, Crystallized Creams (Ch. 7)
Cream Coated Bon Bons (Ch. 8)
Chocolate Puddings, Chocolate Paste, French Chocolates (Ch. 9)
Easter Candies (Ch. 10)
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A crack team of six Southern salesmen. Ky., Tenn., Miss., Ala., Fla., Ga., S. C., N. C., Va., W. Va.
If it will sell in Dixie—we can sell it.

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Phone: Pa. 7659
Terr: Minn., N. & S. Dak.—Special attention given to Twin City trade

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We specialize in candy and novelties.
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Cover confectionery & grocery jobbers, chain-Dept. stores, Food Dist. Nebraska, Iowa, Minnesota Wisconsin.

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Candy & Allied lines. More than ten years coverage of Colo., Wyoming, Mont., Idaho & Utah

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An eight man organization representing manufacturers for 76 confectionery, tobacco, drug and grocery jobbers in Utah-Idaho territory.

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Mountain States (cont'd)

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P. O. Box 227 ALBUQUERQUE N. Mex.
Personal service to 183 jobbers, super-markets and department stores. Backed by 26 years experience in the confectionery field. We call on every account personally every six weeks. Candy is our business.

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Complete coverage of Montana, Idaho, and northern Wyoming, including Casper

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Confectionery Mfr's Agents
Established with Industry since 1901
91 Connecticut St.
Phone: Main 7852
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Terminal Sales Building
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Territory: Wash., Ore., Ida., Mont.
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Manufacturers' Representative
1705 Belmont Avenue
Terr: Wash., Ore., Mont., Ida., Utah, Wyo.

HARRY N. NELSON CO.
112 Market St.
SAN FRANCISCO 11, CALIF.
Established 1906
Sell Wholesale Trade Only
Terr: Eleven Western States

BELL SALES COMPANY
100 Howard Street
SAN FRANCISCO 5, CALIFORNIA
Candy & Food Specialties
Terr: Calif., Reno, Nev., Hawaiian Islands

GENE ALCORN & CO.
1340 E. 6th Street
LOS ANGELES 21, CALIFORNIA
383 Brannan Street
SAN FRANCISCO 7, CALIFORNIA
Territory: State of California

Confectionery Wholesalers

(*Continued from page 67*)

the preparatory stage cover such subjects as size of establishment, analyses of expenses, merchandise line sales, credit sales, receivables, and legal form of organization. Inquiries relative to these subjects should be addressed to the Bureau of the Census, Washington 25, D. C.

Included in this release are merchant wholesalers primarily engaged in selling candy, chewing gum, potato chips, salted nuts, fountain fruits and syrups, etc. Cigars, cigarettes and other tobacco products are frequently handled as secondary lines. Wholesalers selling confectionery as a secondary line and sales branches and offices of confectionery manufacturers are not included.

• **Leonard D. Griffiths,** vice-president of Fanny Farmer Candy Shops, Inc., in charge of operations in the New York district, has been promoted to the executive staff at the Fanny Farmer general offices of Rochester, N. Y., it was announced by John D. Hayes, president of the company.

Mr. Hayes also announced the promotion of James C. Drury, New York district sales manager, to the position of New York district manager in charge of sales and production.

Mr. Griffiths, who in his new duties will be associated with James F. Burke, executive vice-president of Fanny Farmer, assisted in opening the Detroit studio and sales district in 1937, and the following year took over the same duties at Harrisburg, Pa. He was transferred to New York in 1941, to supervice production; became district manager in 1944 and was elected a vice-president the following year.

Confectionery package sales 8% over November 1949. Dollar sales of package goods and general line houses in the industry were up 8% but were partially offset by a 6% decline in sales of bar goods and a 2% drop in bulk goods. Poundage sales showed a sharp decline from last year's level, with bar goods and bulk goods houses showing decreases of 11%.

Joint Candy Advertising

(*Continued from page 62*)

flowers, candy and she made acknowledgements over radio and at a popular night club where a dinner was given. Five thousand boxes of candy were donated for distribution by a "Candy Caravan" to 25 institutions.

The schedule of advertising was begun one month before the holiday when window posters were simultaneously displayed throughout the city. Radio time began two weeks before and street car advertising ten days before.

Radio advertising for Thanksgiving stressed chocolate turkeys and they were featured in the windows of all the members. The response was terrific.

Christmas business jumped ten percent, and many felt this campaign helped create that increase.

The money to conduct this year-long campaign was obtained through special contribution which is voluntary—no set amount is specified; through receipts of an annual dinner-dance which brings attendance of four hundred; through a stag party as well as a family and stag picnics and a smoker.

The association was fortunate to be able to save artist's fees through the talent of President Drescher who designed all posters. These signs cost a nominal fee of $1.00 each for printing cost.

The association put their stamp of approval on the progress of the hardworking officers by re-electing them in December. Clarence H. Dresher is president; Vice-president—Spero J. Yianilos; Secretary—Timothy Maloney; Treasurer—Joseph Fowler, Jr. Directors include: Claude L. Kingsley, George Kaiser, Huston Williams, Michael Gentile, Elmer Wittig, Al Wakefield.

The plans for these enterprising men consist of a bigger and better campaign for 1951. They have started it off with a dinner dance on January 20.

Valentine Day will see advertising, inside and out of buses; radio advertising on two programs five times a week and window posters and window displays.

The MANUFACTURING CONFECTIONER'S Clearing House

POSITION WANTED

FIRST CLASS COCOA, chocolate, and Confectionery expert and production manager, 26 years technical and managerial experience in continental factories and at present with world known English firm, seeks a position in U.S.A. as factory manager. Has thorough knowledge of all varieties of processes of manufacturing cocoa, chocolate, general confectionery, high-class German and French assortments, Swiss couvertures and Dutch cocoas. Box B-211, **The MANUFACTURING CONFECTIONER.**

ALL AROUND CANDY EXPERT with 18 years practical experience seeks responsible position. Have supervisory ability; know cost and complete plant layout. Specialist in American and Continental type confections such as liquid filled hard candies, moulded chocolates and many more interesting items. Family man, 35 years of age, employed at present. Can furnish highest references. Box A-216, **The MANUFACTURING CONFECTIONER.**

HELP WANTED

ENROBER MAN at once. When applying please give years of experience, with whom you have been working for the past ten years, and wages expected. All correspondence will be held strictly confidential. SISCO-HAMILTON Co., 514 S. Loomis St., Chicago 7, Ill.

Chocolate Pan-Men, experienced, wanted. MARLON, 321 West 54th St., N. Y. C.

MACHINERY FOR SALE

10,000 used confectionery wooden starch trays in good condition. Size 33½" x 16½" x 2". Inside dimensions 32" x 15½" x 1¼". Bargain. All or part for immediate disposal. Box A-212, **The MANUFACTURING CONFECTIONER.**

FOR SALE: Union Standard 30" Depositor with 2 pumps and Repisarda Chocolate Depositor, complete with motor and drive. These machines can be seen in operation. Marlon, 321 W. 54th St., N.Y.C.

FOR SALE: 4 ft. Ball Cream Beater with 3 phase motor. $500.00 fob Chicago, George Tiberius, 820 N. State St., Chicago, Illinois.

FOR SALE: Used Friend Hand-Roll Machines. Dispersion Equipment Co., 53 W. Jackson Blvd., Chicago 4, Ill.

CLASSIFIED ADVERTISING

When addressing box numbers, please address as follows:
(Box Number)
The Manufacturing Confectioner
9 South Clinton St.
Chicago 6, Ill.

Classified insertion requests are sent to the same address. Rates are 35c per line of regular type; 70c per line for bold face or capital letters; $6 per column inch for display. Minimum insertion is three lines. Rates are not subject to agency discounts.

MACHINERY WANTED

WANTED: ONE OR MORE DF-1 BAR WRAPPING MACHINES, with or without automatic roll card feed. Must be in good running condition. Box A-215, **The MANUFACTURING CONFECTIONER.**

Model 22-B Package Machinery Co. wrapping machine also 3 ft. cream beater and 50 lb. size Puller. Box A-214, **The MANUFACTURING CONFECTIONER.**

We are interested in purchasing Chocolate Mixers and Containers with a capacity of approximately 20,000. Box A-213, **The MANUFACTURING CONFECTIONER.**

WANTED: Several Transwrap Machines. Will pay good price. Box A-1207, **The MANUFACTURING CONFECTIONER.**

WANTED: Igou or any other Automatic Stick Candy Machine with cutter. Also, Stick Candy Cellophane wrapping Machine. Give full particulars. Ring Candy Co., Baltimore, Md.

WANTED: Power drop frame with or without rolls; 6' batch roller; Puller 25—100 lb. cap.; Lightning portable agitators ½, ¾ or 1 HP. Advise price, condition, details. Paramount, 930 Broadway, Everett, Mass.

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Model 22 B
Wrapping Machines

Also Pop Wrapping Machines

State Serial and Model Number

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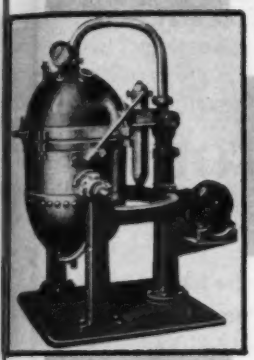
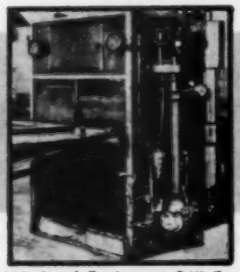


Simplex Steam Vacuum Cooker. Simplex Gas Vacuum Cooker also available.



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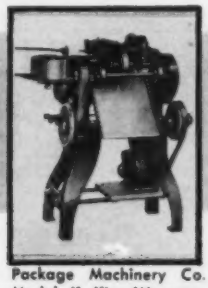
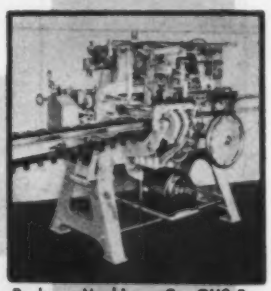
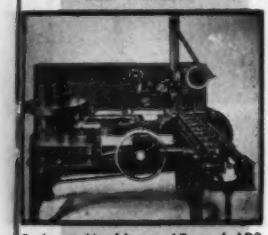


Package Machinery Co. Model K Kiss Wrapper.



Package Machinery Co. GH2 Bar Wrapper, with Roll-Type Wrapper Feed and Electric Eye.



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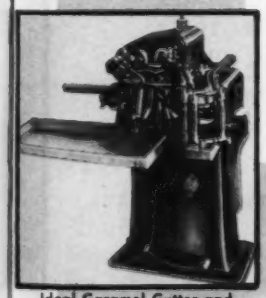

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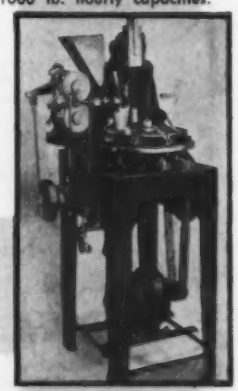
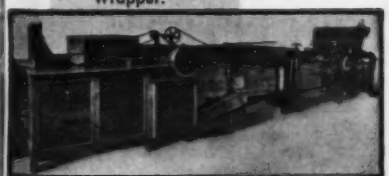
Racine automatic Sucker Machine with Cooling Conveyor.



Racine Model M Die Pop Machine.



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among Candy Manufacturers

The 1951 CANDY BUYER'S DIRECTORY

lists manufacturers of the following goods

Bar Goods
Bon Bons
Brittles
Butter Creams
Butter Scotch
Candy Canes
Caramels
Chewing Gum
Chips
Chocolates in Bulk
Chocolates (packaged)
Chocolates (molded)
Coconut Goods
Cordials
Corn Candy
Cough Drops
Creams, French
Dragees
Fudge Work
Glace Candy
Gums and Jellies
Halvah
Hard Candies
Kisses
Licorice
Lozenges
Maple Items
Marshmallows
Marzipan
Nougats
Penny Goods
Ribbon Candy
Seasonal Specialties
Suckers
Taffy
Toffee
Vending Machine Candies

As the only authentic and accurate Directory of the wholesale manufacturers of candy in this country, this annual publication has gained a wide reputation both within and outside of the industry. Every supplier of raw materials, machinery or packaging supplies usable in confectionery production and sales should have copies for himself and his sales force.

Listed are the commercial candy manufacturers who sell at wholesale, nationally or sectionally, classified according to types of confections manufactured. The classifications have been compiled with the help of the candy companies themselves.

The 1951 Edition of The CANDY BUYERS DIRECTORY will be a profitable addition to the sales kits of all who wish to bring their goods or services to the attention of the confectionery industry.

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Editorial

The Outlook for Packaging

THE OUTLOOK for packaging materials is a matter of concern not only to manufacturers of confectionery but to all industry as well. Demand for all types of containers and packaging materials reached an all-time high during the third quarter of 1950. Users either bought or tried to buy supplies at levels far surpassing previous usage.

The Korean emergency meant increased buying by the military. The economic slow-down in 1949 resulted in reduced inventories by both producers and users. The sudden tightening of raw material supplies made operations difficult for the producer.

However, container producers increased their output during the third quarter of 1950. In most cases, this was done at the expense of depleting raw material inventories.

Supplies of raw materials for container producers and converters have become increasingly difficult to obtain despite efforts to increase production of basic materials such as aluminum, paper, and paperboard. The production of paper and paperboard during the third quarter of 1950 rose about 24 percent above that of the third quarter of 1949. The production of plastic and resin materials during the first eight months of 1950 rose over 50 percent above that of the same period in 1949.

Aluminum has been diverted to military usage as cited in NPA Order M-7 issued November 13, 1950. The packaging of candy in aluminum foil will be considerably curtailed.

Once again, we enter an era wherein difficulty will be encountered in securing the type of packaging material to which we have become accustomed. This is the time to review our packaging operations and make the necessary adjustments.

Packaging Conservation

AS OUR INDUSTRIAL mobilization gathers momentum, we may expect less packaging materials allocated to civilian needs. Shifts to substitute materials, increased conservation measures to attain more efficient use of existing supplies, and the development of methods to effect maximum packaging utility from less material are imperative. Some type of container or packaging material will continue to be available though perhaps not what would be used under normal conditions.

"Containers and Packaging," (U.S. Department of Commerce), Volume 3, Number 4 (1950) suggests five ways to effect savings in packaging materials, as:

(1) Do not overpackage. Examine the design of your fibre board shipping containers and re-design them to use less board. Retain the packaging adequacy but reduce or eliminate any excess factor of safety previously used.

(2) Use the largest practical container. Increase the size of your pack if possible. The fibre box maker can manufacture boxes to carry a far greater tonnage out of the amount of board available to him if your contribution could be 'doubling the pack.' Your fibre board procurement problem will be reduced if everyone packs in fewer but larger containers designed to the practical irreducible minimum.

(3) Get maximum re-use from your containers. Methods are needed whereby through special 'strip' or 'tape' seal, fibre board containers can be closed sufficiently well to carry, yet be opened without damaging the box so that it can be collapsed, returned, and re-used.

(4) Proper salvage. The maker of fibre board can be helped greatly if the waste paper supply upon which he always partially depends is kept high. Kraft waste is needed badly. When the maximum possible re-use has been obtained from fibre containers, be sure to segregate these with other Kraft waste so that proper disposal may be made.

(5) Do not order more packaging material than immediate minimum requirements. Do not require a delivery date far ahead of the time of intended use. To do so may adversely affect the entire supply of packaging materials.

The Confectionery Industry will jump this hurdle of packaging shortages as it did some years ago. See THE MANUFACTURING CONFECTIONER, page 16, Vol. 24, No. 4 (1944) and page 73, Vol. 24, No. 5, (1944). We suggest an early revival of the 'Clearing House,' a co-operative project where a central warehouse received returned cartons which after sorting were available for reclaiming. We further suggest that individual companies initiate their own plans to conserve paper and fibre board similar to that successfully operated by the Curtiss Candy Company.

8 out of 10 say it's *best* for

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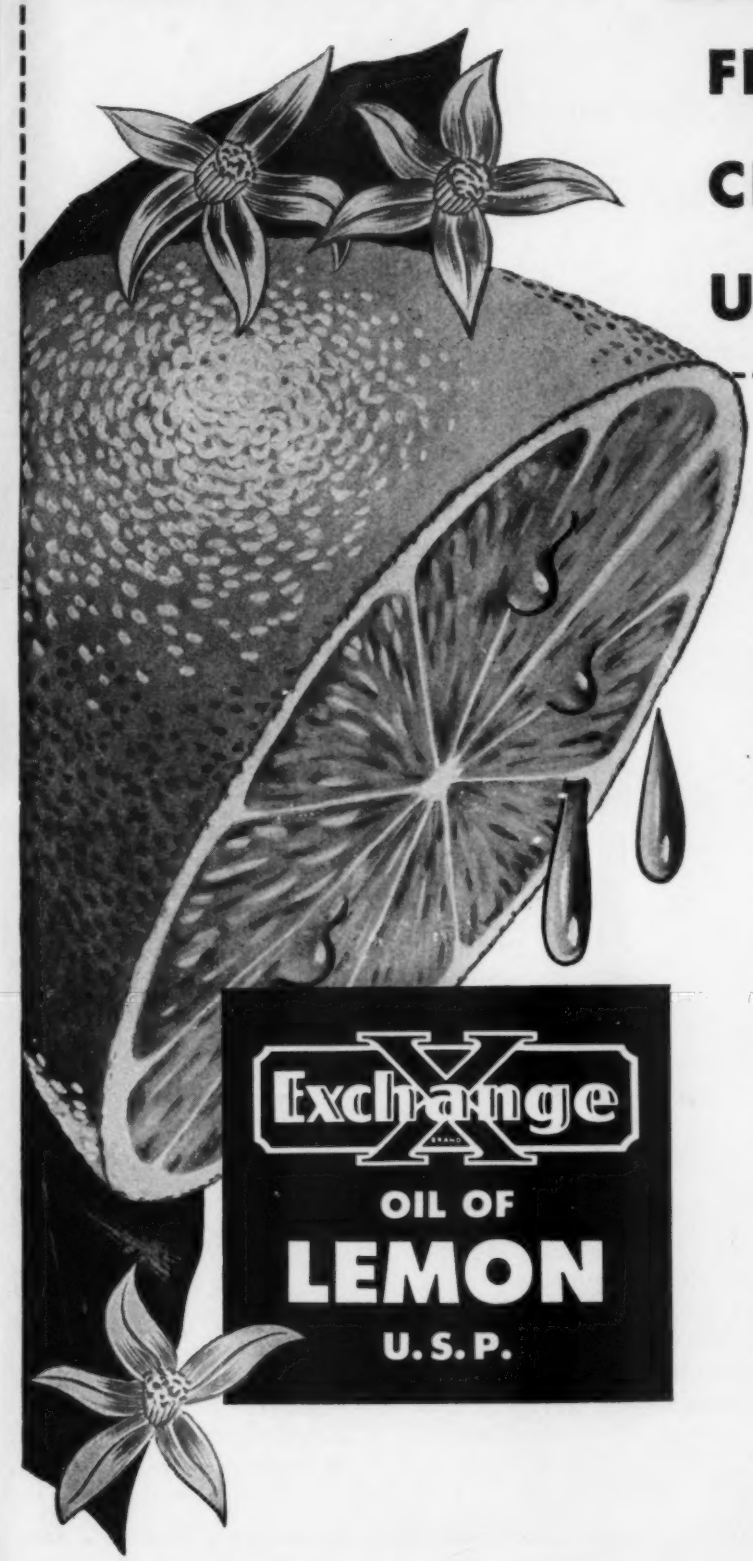

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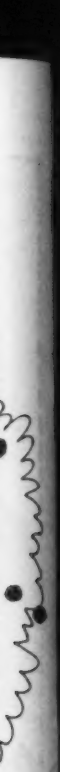

Y.

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